



**Calhoun: The NPS Institutional Archive**  
**DSpace Repository**

---

Theses and Dissertations

1. Thesis and Dissertation Collection, all items

---

1994

# An analysis of the order cycle at Coast Guard Supply Center Curtis Bay, Maryland: how to measure customer service

Leonard, Michael F.

Monterey, California. Naval Postgraduate School

---

<http://hdl.handle.net/10945/42830>

---

This publication is a work of the U.S. Government as defined in Title 17, United States Code, Section 101. Copyright protection is not available for this work in the United States.

*Downloaded from NPS Archive: Calhoun*



Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

**Dudley Knox Library / Naval Postgraduate School**  
**411 Dyer Road / 1 University Circle**  
**Monterey, California USA 93943**

<http://www.nps.edu/library>

# NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



**DTIC**  
**ELECTE**  
**JAN 23 1995**  
**THESIS S G D**

**AN ANALYSIS OF THE ORDER CYCLE AT  
COAST GUARD SUPPLY CENTER  
CURTIS BAY, MD.  
HOW TO MEASURE CUSTOMER SERVICE**

by

Michael F. Leonard

December, 1994

Thesis Advisor:

Paul Fields

Approved for public release; distribution is unlimited.

DTIC QUALITY INSPECTED 3

19950119 019

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE December 1994	3. REPORT TYPE AND DATES COVERED Master's Thesis		
4. AN ANALYSIS OF THE ORDER CYCLE AT COAST GUARD SUPPLY CENTER CURTIS BAY, MARYLAND HOW TO MEASURE CUSTOMER SERVICE		5. FUNDING NUMBERS		
6. AUTHOR Leonard, Michael F.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey CA 93943-5000		8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Commanding Officer U.S. Coast Guard Supply Center Curtis Bay Baltimore, MD 21226-1792		10. SPONSORING/MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE		
13. ABSTRACT (maximum 200 words) This thesis examines the Coast Guard's logistics system giving particular emphasis to the order cycle at Coast Guard Supply Center Curtis Bay, MD (SCCB). This analysis is based on a review of applicable literature, field interviews, and data gained through SCCB's data base. A review of SCCB's order cycle was conducted to identify potential elements that could be streamlined for efficiency and improved to increase the level of customer service. The review revealed SCCB's inability to track a requisition throughout the order cycle process, primarily after an item has been shipped. Without proper tracking requirements, SCCB is incapable of establishing a policy for measuring its performance. This thesis proposes that SCCB must track and assume responsibility for each requisition from receipt until delivery (cradle to grave). SCCB's mission is to provide the fleet with high quality items, at competitive prices, and as rapidly as possible to maximize customer service. In order to improve SCCB's overall performance, the Coast Guard must establish a policy that sets a benchmark level of customer service, allow SCCB to track a requisition from cradle to grave, require a warehouse to acknowledge receipt for a shipment, and promulgate uniform receipt and support procedures.				
14. SUBJECT TERMS Order Cycle Analysis, Customer Service, Coast Guard Supply Center		15. NUMBER OF PAGES 93		
		16. PRICE CODE		
17. SECURITY CLASSIFI- CATION OF REPORT Unclassified	18. SECURITY CLASSIFI- CATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFI- CATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	



Approved for public release; distribution is unlimited.

AN ANALYSIS OF THE ORDER CYCLE AT COAST GUARD SUPPLY  
CENTER CURTIS BAY, MARYLAND  
HOW TO MEASURE CUSTOMER SERVICE

by

Michael F. Leonard  
Lieutenant Commander, United States Coast Guard  
B.S., United States Coast Guard Academy, 1983

Submitted in partial fulfillment  
of the requirements for the degree of

**MASTER OF SCIENCE IN MANAGEMENT**

from the

**NAVAL POSTGRADUATE SCHOOL**  
December 1994

Author:

Michael F. Leonard

Approved by:

Paul Fields, Thesis Advisor

William Short, Second Reader

David Whipple, Chairman  
Department of Systems Management

Accession For	
NTIS	CRA&I <input checked="" type="checkbox"/>
DTIC	TAB <input type="checkbox"/>
Unannounced <input type="checkbox"/>	
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

## ABSTRACT

This thesis examines the Coast Guard's logistics system giving particular emphasis to the order cycle at Coast Guard Supply Center Bay, MD (SCCB). This analysis is based on a review of applicable literature, field interviews, and data gained through SCCB's data base.

A review of SCCB's order cycle was conducted to identify potential elements that could be streamlined for efficiency and improved to increase the level of customer service. The review revealed SCCB's inability to track a requisition throughout the order cycle process; primarily after an item has been shipped. Without proper tracking requirements, SCCB is incapable of establishing a policy for measuring its performance. This thesis proposes that SCCB must track and assume responsibility for each requisition from receipt until delivery (cradle to grave).

SCCB's mission is to provide the fleet with high quality items, at competitive prices, and as rapidly as possible to maximize customer service. In order to improve SCCB's overall performance, the Coast Guard must establish a policy that sets a benchmark level of customer service, allow SCCB to track a requisition from cradle to grave, require a warehouse to acknowledge receipt for a shipment, and promulgate uniform receipt and support procedures.

## TABLE OF CONTENTS

I.	INTRODUCTION . . . . .	1
A.	PURPOSE . . . . .	1
B.	BACKGROUND . . . . .	1
C.	RESEARCH QUESTIONS . . . . .	3
D.	SCOPE, ASSUMPTIONS, LIMITATIONS AND METHODS . . . . .	4
1.	Scope . . . . .	4
2.	Assumptions . . . . .	5
3.	Limitations . . . . .	6
4.	Methods . . . . .	7
E.	THESIS ORGANIZATION . . . . .	8
II.	BACKGROUND . . . . .	9
A.	COAST GUARD SUPPLY AND DISTRIBUTION SYSTEM . . . . .	9
B.	MISSION AND PURPOSE OF SCCB: . . . . .	10
C.	THE CHAIN OF CUSTOMERS CONCEPT . . . . .	11
D.	SCCB'S NEW MISSION STATEMENT . . . . .	11
E.	POLICY STRATEGIES AND AMENDMENTS . . . . .	13
F.	ENGINEERING LOGISTICS COMMAND (ELC) . . . . .	13
G.	SUMMARY . . . . .	14
III.	THE COAST GUARD SUPPLY SYSTEM AND SCCB'S ORDER CYCLE . . . . .	17
A.	OVERVIEW OF THE SUPPLY SYSTEM . . . . .	17
1.	General Organization . . . . .	17
2.	Supply Fund Financing . . . . .	17
3.	SCCB as an Inventory Control Point (ICP) . . . . .	18
4.	Functions of SCCB . . . . .	19
B.	THE ORDER CYCLE . . . . .	20
1.	Introduction to the Order Cycle . . . . .	20
2.	Order Processing and the Information System . . . . .	21
3.	The Order Cycle at SCCB . . . . .	21

Cycle . . . . .	22
5. The Importance of Coast Guard Support Centers . . . . .	24
IV. CUSTOMER SERVICE . . . . .	27
A. CUSTOMER SERVICE DEFINED . . . . .	27
B. CUSTOMER SERVICE ELEMENTS . . . . .	28
C. DETERMINING CUSTOMER SERVICE LEVELS . . . . .	31
1. Uniform Material Movement and Issue Priority System (UMMIPS) . . . . .	31
2. How UMMIPS Works . . . . .	32
3. Requisition Processing and Delivery Dating . . . . .	33
D. SCCB'S PRESENT LEVEL OF CUSTOMER SERVICE . . .	34
1. Mathematically Expressing the Level of Service . . . . .	34
2. SCCB's Performance for FY 93 . . . . .	36
3. Assumptions and Constraints . . . . .	39
4. Background Information for Appendix C . .	42
V. CHANGING THE COAST GUARD LOGISTICS PROCESS . . . .	43
A. A CHANGE IN THE FLEET'S ROLE . . . . .	43
B. CHANGES TO COAST GUARD SUPPORT CENTER POLICIES . . . . .	44
C. CHANGES TO SCCB'S POLICIES . . . . .	47
D. COMMANDANT (G-E) RESPONSIBILITIES TO PROMOTE CHANGE . . . . .	51
VI. CONCLUSIONS AND FINAL RECOMMENDATIONS . . . . .	53
A. CUSTOMER SERVICE AS A PERFORMANCE MEASUREMENT	53
B. IMPORTANCE OF TRACKING A REQUISITION FROM CRADLE TO GRAVE . . . . .	53
C. SCCB'S NEW MISSION STATEMENT . . . . .	54
D. DEVELOPING A BENCHMARK LEVEL OF CUSTOMER	

SERVICE . . . . .	54
E. EFFECTS ON THE ENGINEERING LOGISTICS CENTER (ELC) . . . . .	55
F. POTENTIAL BENEFITS FROM THE POLICY CHANGES . .	56
G. SUMMARY . . . . .	58
APPENDIX A. FLOW CHART OF SCCB'S ORDER CYCLE . . . . .	59
APPENDIX B. UNIFORM MATERIAL MOVEMENT AND ISSUE PRIORITY SYSTEM (UMMIPS) DESIGNATORS . . . . .	61
A. FORCE ACTIVITY DESIGNATOR (FAD) ASSIGNMENTS .	61
B. URGENCY OF NEED DESIGNATOR (UND) ASSIGNMENTS .	63
APPENDIX C. REQUISITION DATA ANALYSIS FOR FY 93 . . . . .	65
APPENDIX D. TRANSPORTATION SHIPMENT SYSTEM (SHIPIT) . .	75
APPENDIX E. CUSTOMER MASTER FILE . . . . .	77
APPENDIX F. ALCOAST MESSAGE (DRAFT) . . . . .	79
LIST OF REFERENCES. . . . .	81
INITIAL DISTRIBUTION LIST. . . . .	83

## **I. INTRODUCTION**

### **A. PURPOSE**

Recent efforts in the Coast Guard to streamline and re-engineer their command, control and support structures have resulted in a shake-up in the way daily operations are handled. This effort is an integral part of the Coast Guard's multi-year budget strategy and is in concert with the President's and the Secretary of Transportation's goals to improve the overall performance of government agencies [Ref. 1]. Dramatic changes have already taken effect in the Coast Guard's logistics and management practices with additional restructuring plans scheduled for the immediate future. As an example, a major change scheduled for 1996 is combining two fleet supply centers to form a new Engineering Logistics Command (ELC) in Curtis Bay, Maryland. [Ref. 2].

The primary focus of this thesis is to establish a policy for measuring the level of customer service delivered to the fleet by Supply Center Curtis Bay (SCCB). Once a measurement tool is in place SCCB can better analyze the effectiveness of its order cycle and evaluate its complete performance. As evidenced from this research the warehousing, transportation and receipting processes are of primary interest. Improvements in the elements of the order cycle, along with the development of a benchmark and a measuring tool for customer service, will result in an immediate and beneficial impact on the way SCCB services the fleet.

### **B. BACKGROUND**

The Coast Guard has an integrated material distribution system designed to provide logistical support to meet

operational needs. Consistent with efficiency, operational necessity and governing legislation, the Coast Guard obtains logistics support from the military services of the Department of Defense (DOD), the Defense Logistics Agency (DLA), and the General Services Administration (GSA). In addition, the Coast Guard has adopted many DOD military standardized systems to assure adequate logistic support for present and future mobilization requirements [Ref. 3].

The Coast Guard maintains three supply centers to support Coast Guard unique equipment:

- SUPCEN Curtis Bay, Maryland (SCCB): Its mission is to provide designated levels of supply logistics support of Hull, Mechanical, Electrical, and Ordnance (HME&O) shipboard equipment for centrally supported Coast Guard vessels and Coast Guard YARD Industrial activities, to determine support methods and sources of supply, and to perform the functions of an Inventory Control Point (ICP) within the National Supply System [Ref. 4].
- SUPCEN Baltimore, Maryland: Its mission is to centrally manage, procure, inspect, store, control, account for, issue, repair, stage and ship specified categories of material (Electronics Support) to all Coast Guard and Coast Guard supported units and accomplish other logistical responsibilities as assigned [Ref. 5].
- Aircraft Repair and Supply Center (AR&SC) Elizabeth City, South Carolina: Its mission is to provide Programmed Depot Maintenance (PDM), major repair and modification of aircraft and aeronautical equipment; and provide technical and logistical support for Coast Guard aviation [Ref. 6].

All three supply center's order cycles are similar. Each can track a requisition from the time of receipt until it leaves the warehouse. Present procedures, however, do not require a supply center to track an item once it is shipped. Nor is there a requirement for the requisitioner to officially receipt for an item unless it is a priority requisition

(priority/overnight shipment) or of high monetary value.

Without proper tracking requirements, a supply center is incapable of establishing a policy for measuring performance. The Coast Guard's logistics system cannot be effectively streamlined if a performance measurement tool does not exist. Given this dilemma, an opportunity presents itself to evaluate the present system. This thesis proposes that a supply center must assume responsibility for each requisition from receipt until delivery (cradle to grave). Only then will a quantitative level of customer service be measurable.

### **C. RESEARCH QUESTIONS**

This research considers the following primary research questions:

- Why is measuring the level of customer service important to the general performance and efficiency of a supply center?
- What is the significance of developing a benchmark level of customer service and how can it be tracked?

The supporting secondary research questions are:

- What are the current order cycle procedures at SCCB and how can they be redesigned to improve customer service to the fleet?
- What are the current tracking procedures at SCCB and are they applicable to all requisitions from the time of receipt to the point of delivery?
- What are the current procedures used by the fleet to receipt for items shipped by SCCB?
- What role do Coast Guard Support Centers play in the receiving, warehousing and transfer of items shipped from SCCB designated for the fleet?
- What level of customer service should be used as a benchmark to evaluate SCCB's mission performance?

- Will establishing new procedures be compatible with SUPCEN Baltimore's doctrine and will the procedures be effective after the consolidation of the Engineering Logistics Center in 1996?
- What will be the cost of setting up a requisition tracking system?

#### **D. SCOPE, ASSUMPTIONS, LIMITATIONS AND METHODS**

By understanding the scope, assumptions, limitations and methods that guide this research, the reader can better evaluate the conclusions and recommendations for the need to track a requisition from cradle to grave.

##### **1. Scope**

The research focuses on the present logistics procedures used by SCCB to receipt for, process, deliver and track a requisition from the fleet. In addition it reviews present receipting, warehousing and transfer procedures used by Coast Guard Support Centers who act as strategic links between SCCB and its final customers. The analysis includes an evaluation of the present system against a proposed tracking system. It lists the advantages and disadvantages of each based on data gathered through interviews of Coast Guard personnel, present Commandant Instructions, and requisition data gathered from the fleet and SCCB. After evaluating the overall logistics system, recommendations are offered on how to improve logistics support, establish a requisition tracking system, and implement a customer service benchmark to measure SCCB performance. This thesis assumes that these proposed procedures for SCCB will be compatible with SUPCEN Baltimore's logistics doctrine. Implementing new procedures at SCCB should occur before the consolidation of the two supply centers. Provided the procedures are effective, as demonstrated over the next two years, SUPCEN Baltimore will

execute the same procedures upon the formation of the Engineering Logistics Command (ELC).

## **2. Assumptions**

Several assumptions underlie the thesis research:

- The Coast Guard has a long term commitment to supporting the centralized supply system (CSS)<sup>1</sup> aboard its High Endurance<sup>2</sup> and Medium Endurance<sup>3</sup> cutters.
- The proposed procedures to track an item through the entire order cycle will be compatible with both SCCB and SUPCEN Balitmore.
- The benchmark for customer service will be acceptable by both SUPCEN Baltimore and SCCB.
- Regardless of present evaluation policies there are no accurate methods for measuring overall logistical performance (as defined) or the level of customer service at either SCCB or SUPCEN Baltimore.
- Any proposed changes, once proven effective, will be incorporated in the Business Process Redesign for implementation by the Engineering Logistics Center (ELC).
- These procedures will be enforceable by Commandant policy.

A final assumption is that the Coast Guard can be represented by these five cutters and support centers:

- Five Coast Guard Cutters (378 High Endurance Cutters) were chosen as a representative sample of the fleet

---

<sup>1</sup>CSS is a concept developed on board CG 378' cutters to formalize the connection between logistics and readiness.

<sup>2</sup>The Coast Guard's larger ships are known as High Endurance Cutters (HEC) and as 378's, a reference to their length.

<sup>3</sup>The Coast Guard's medium sized ships are known as Medium Endurance Cutters (MEC) and as 210's and 270's, a reference to their lengths.

population. The five were chosen from separate geographical areas (San Pedro, CA; Alameda, CA; Seattle, WA; Honolulu, HI; Governor's Island, NY) throughout the Coast Guard to obtain an accurate cross reference of the routine logistical activity of the fleet.

- Five Coast Guard Support Centers were chosen as a representative sample of the Coast Guard's receipt and warehousing procedures. These support centers are collocated with the cutters previously mentioned. Each support center is responsible for supporting the tenant cutter's warehousing and logistical needs.
- This research focused primarily on support center and cutter relationships. Coast Guard stations and other units that support small boats<sup>4</sup> typically have operational and administrative control over the vessels and crews. Therefore they are responsible for providing direct support for the logistical needs of the small boat unit.

### **3. Limitations**

The supply centers do not have operational or administrative control over the units they support. Each ship ultimately works for the Commandant but daily operational and administrative responsibilities are distributed throughout many levels in the chain of command. Therefore any uniform policy or procedural change must come down from the Commandant to be recognized and enforced. As it stands now, the fleet interacts with each support center through unwritten and informal memorandums of understanding (MOU).

As an example, a support center's mission is to support other units within a geographical area with logistical, administrative, medical, and industrial assistance [Ref. 7]. Their logistical duties involving the receipt, warehousing, transfer, and shipment of supplies are not well defined. The level of support provided to the fleet

---

<sup>4</sup>Small boats are considered to be any vessel less than 65 feet in length.

can differ from unit to unit depending on support center size and personnel strength. Therefore it is important to establish logistical procedures that will assign responsibility uniformly to all supply centers, support centers, and floating units. These new procedures will have to update present policies and be officially promulgated by the Commandant through future revisions of publications, manuals, and instructions. Since revisions are typically done once every five years, an all coast message (ALCOAST) should be promulgated and released outlining the changes (this will allow for the immediate dissemination of the new policy changes). This thesis will provide recommended policy changes and the ALCOAST message.

#### **4. Methods**

The research includes a review of all pertinent literature and written instructions associated with Coast Guard and Navy policies on supply and logistics. The review focuses on SCCB policy and its order cycle from receipt and processing to the delivery of a requisition to the customer (the ship).

A large portion of the research is qualitative and evaluates existing procedures. A quantitative analysis of delivery times supports the need for better tracking procedures, details ineffective delivery and transportation practices, and provides data to establish the present levels of customer service.

Interviews, conducted with many Coast Guard and Navy personnel who are knowledgeable with supply procedures and have first hand experience with the problems outlined by this thesis, provide information on the unwritten procedures and policies being used by the support centers and the fleet.

## **E. THESIS ORGANIZATION**

The following chapters represent the background and theory pertinent to effective customer service and explains how SCCB can use it as a performance measuring tool. Each chapter represents research outlining the different elements of the logistics cycle from the point a requisition is created until it is delivered. Chapter I introduces the purpose and methodology of the research. Chapter II provides background information that highlights the underlying issues. Chapter III describes the present logistical system and outlines unit responsibilities. Chapter IV describes the importance of customer service, its relevance as a performance measuring tool, and establishes a proposed benchmark for SCCB. Chapter V presents the recommended methodology to track an item from "cradle to grave", and proposes new responsibilities for SCCB, the fleet, and support centers. Chapter VI wraps everything together with final conclusions and recommendations for establishing a customer service based, performance evaluation system at SCCB. Finally, the appendices provide information that may be useful to the reader to better understand the underlying issues and proposed changes.

## **II. BACKGROUND**

As it stands now, SCCB is unable to define and accurately assess its overall service performance. SCCB can track portions of their order cycle (requisition processing times, fill rates, warehouse packing rates, inventory control, etc.), but they have no policies in place to track a requisition from "cradle to grave". This information reflects conditions that must be considered when designing control mechanisms and procedures for shipping and receipting after an item leaves the supply center enroute to its final destination.

Chapter II discusses the Coast Guard Distribution System, SCCB's mission, the "chain of customers" concept and SCCB's policy strategy. The chapter then provides a brief introduction of the proposed Engineering Logistics Command (ELC).

### **A. COAST GUARD SUPPLY AND DISTRIBUTION SYSTEM**

The Coast Guard Material Distribution System, hereafter referred to as "the distribution system," exists to support the needs of the Coast Guard with material available from the Coast Guard and other government agencies. The distribution system is designed to address the material needs of the Coast Guard in a way that provides the most effective and responsive support to the end user. The following statements guide policy formulation for the distribution system:  
[Ref. 8]

- Maximize direct support from supply sources to the end user.
- Limit the stocking and management of other government agency (OGA) material by Coast Guard Inventory Control Points (ICP's) to only those OGA items for which direct support to retail support activities or end users has proven to be inadequate.

- Use those Coast Guard or OGA facilities offering the optimum in effective and efficient storage and distribution of material.
- Position material to assure effective response times with special consideration given to insurance items.

#### **B. MISSION AND PURPOSE OF SCCB:**

SCCB has expounded on their mission statement (as written by Commandant in Ref. 4) and created the following:

The mission of SCCB is to centrally manage, procure, inspect, store, control, account for, issue, repair, stage and ship specified categories of material to all Coast Guard and Coast Guard supported units and accomplish other logistical responsibilities as assigned [Ref. 9].

In addition to the mission statement, SCCB created a purpose statement which reads as follows:

SCCB is a support command that operates under the program management of Commandant (G-ELM). SCCB exists to provide quality information, parts and services to the Coast Guard fleet.

- SCCB provides selected technical information to Coast Guard cutters and small boats for all hull, mechanical, electrical and ordnance (HME&O) equipment.
- SCCB provides Coast Guard unique parts and equipment to Coast Guard cutters and small boats for centrally managed HM&E equipment.
- SCCB provides selected logistics services for Coast Guard cutter and small boat HME&O support, working in partnership with our HME&O support partners; namely, HQ Program Managers (G-ELM, G-ENE, G-A), HQ Platform Managers (G-N, G-O), MLCLANT,<sup>5</sup> MLCPAC,<sup>6</sup> Coast Guard

---

<sup>5</sup>MLCLANT refers to Maintenance and Logistics Command Atlantic located on Governor's Island, NY.

YARD,<sup>7</sup> SUPCEN Baltimore and other government agencies (e.g. SPCC, DLA) [Ref. 10].

### **C. THE CHAIN OF CUSTOMERS CONCEPT**

The chain of customers concept encompasses all parts of the order cycle and operations system. For the chain of customers concept to be effective, each element of the order cycle must be identified as being a customer. The successful performance of one element is dependent upon the other links in the customer chain. If one element fails then the chain falls apart. SCCB's present chain of customers is weak in two elements of the order cycle; shipping and receipt acknowledgement. To better serve the customer SCCB needs to assume responsibility for tracking a requisition from the time of receipt until delivery. Only then will a performance evaluation system be possible and effective.

### **D. SCCB'S NEW MISSION STATEMENT**

SCCB's interpretation of their present mission statement makes them responsible for the actions taken to process a requisition from the time of receipt until the item is shipped from their warehouse. SCCB does not measure the time of shipment as an element in their order cycle. This period can be anywhere from one day to four months, depending on whether the ship is underway when the item arrives.

Often SCCB personnel are unaware of the important role the shipping element plays in the order cycle. In the eyes of the command, SCCB's job is completed once the item leaves the

---

<sup>6</sup>MLCPAC refers to Maintenance and Logistics Command Pacific located on Coast Guard Island in Alameda, CA.

<sup>7</sup>Coast Guard YARD is the only Coast Guard operated YARD facility and is collocated with SCCB in Curtis Bay, MD.

warehouse as freight. Because the receipt process for incoming freight varies from unit to unit, supply procedures are not uniform and usually less than desirable. It is the responsibility of the requisitioners to track down and locate their items once they are shipped from the SCCB warehouse. SCCB has a customer service hot line, but service representatives are limited by resources and policy in the amount of assistance they can provide to the units. The difficulty arises when a ship is underway. Trying to track down an item needed on board while in the middle of the Bering Sea<sup>8</sup> is an arduous task. INMARSAT<sup>9</sup> telephone or message traffic<sup>10</sup> are two methods available to communicate ship to shore. These methods are both expensive (INMARSAT costs approximately \$7.00 per minute and is limited to critical use only) and inefficient (message traffic can be delayed, garbled or misinterpreted). The ships must also rely on a shore unit to take responsibility for insuring the item is located and forwarded to the appropriate destination.

This thesis proposes a fundamental change to SCCB's mission statement. The new mission statement should read:

The mission of SCCB is to centrally manage, procure, inspect, store, control, account for, issue, repair, stage, ship, and **track until receipt** **all** specified categories of materials to all Coast Guard and Coast Guard supported units and accomplish other logistical responsibilities as assigned.

---

<sup>8</sup>Bering Sea is a common patrol area for many west coast cutters.

<sup>9</sup>INMARSAT is the ship's satellite telephone.

<sup>10</sup>Message traffic is the ship's primary means of communication with all other units, both ashore and afloat.

#### **E. POLICY STRATEGIES AND AMENDMENTS**

The underlying strategy of SCCB should be to provide the customer with high quality items, at competitive prices, and as rapidly as possible to maximize customer satisfaction. SCCB must establish a policy that will allow them to measure a quantitative level of customer service. This thesis proposes a three-step amendment to existing SCCB policies:

- Have SCCB track all shipped items until receipted for by the requisitioner or by a designated recipient in the original request (or updated through additional communication).
- Once an item is received, confirmation of receipt must be forwarded to SCCB by expedient and cost efficient means.
- The Coast Guard should promulgate uniform supply procedures for handling incoming freight by shore based warehouses that service the fleet.

#### **F. ENGINEERING LOGISTICS COMMAND (ELC)**

In light of future changes in Coast Guard logistics policies, this thesis evaluates present policies and recommends new options to the way SCCB does business. It is important to identify, implement and test these policy changes prior to the consolidation of SUPCEN Baltimore and SCCB. Any policy changes will have approximately one to two years to see if they are successful before the ELC consolidation occurs.

In 1996, the supply centers will consolidate with other Headquarters and Maintenance and Logistics Commands (MLC's) support units to form the ELC. The ELC will provide integrated maintenance and supply support to the Coast Guard and will work in harmony with MLC, Coast Guard Headquarters and Headquarters units to achieve this support. The ELC will focus on centralized depot level repairs, coordination of

supply and inventory activities for centrally managed supply items, configuration management of cutters and boats, maintenance philosophy and support, and provide technical and design engineering support to MLC's, Headquarters and Headquarters units. The ELC will provide formal contract, primary Management Information Systems (MIS) and warehousing support to the Coast Guard YARD. It will be a proactive, responsive and action oriented activity that is the focal point for resolution of field related problems [Ref. 11].

The ELC Business Process Redesign is a document that represents the redesigned business processes for the future Engineering Logistics Command. The ELC represents the re-engineered logistics processes and functions that will be developed during the next one to six years as it evolves into a consolidated Engineering, Electronics, Hull, Machinery, Electrical, and Ordnance Logistics Center of excellence.

If the recommended changes to SCCB policies are proven to be effective, then they will be incorporated into the Business Process Redesign for implementation by the ELC.

#### **G. SUMMARY**

The budget issues the Coast Guard faces today are very real. Every unit needs to better manage its budget and use its limited resources wisely. The Coast Guard has drastically altered its supply policies and procedures in an effort to streamline the logistics system. Unfortunately the Coast Guard did not include the tools necessary to measure performance and the level of customer service. Therefore, the Coast Guard needs to establish policies that set a benchmark level of customer service, set performance measuring guidelines and promulgate uniform warehouse and receipt procedures.

This thesis proposes such policies for SCCB. It also recommends a methodology for SCCB to track a requisition from cradle to grave, proposes a policy for calculating the level of customer service and develops a benchmark to be used as an evaluation guideline for order cycle performance. Whatever the resulting mechanisms are, SCCB must assume responsibility for the tracking of a requisition from receipt until delivery if they are to accurately measure their performance in the same way their performance is measured by their customers.



### **III. THE COAST GUARD SUPPLY SYSTEM AND SCCB'S ORDER CYCLE**

Chapters I and II provide a general introduction to the Coast Guard's supply procedures and reveal SCCB's present inability to track a requisition from cradle to grave. Chapter III starts by taking a closer look at the Coast Guard's supply system, describes each element in SCCB's order cycle and flow charts the requisition process. This chapter is intended to provide the reader with a better understanding of present SCCB supply procedures and lay a foundation for the proposed procedural changes outlined in Chapter V.

#### **A. OVERVIEW OF THE SUPPLY SYSTEM**

##### **1. General Organization**

A source of supply has been established for each item used by the Coast Guard with a recurring or anticipated demand. These sources of supply include Coast Guard, Other Government Agencies (OGA) or local procurement from commercial sources. The Coast Guard is taking steps to help improve the overall government supply system through a cooperative effort with the General Services Administration (GSA) and the Department of Defense (DOD). GSA and DOD have developed and are proceeding with the implementation of a National Supply System concept designed to eliminate avoidable duplication in supply management. The Coast Guard has supply source agreements with GSA and Defense Supply Centers of the Defense Logistics Agency (DLA) and the ICPs of the Army, Navy and Air Force.

##### **2. Supply Fund Financing**

The Coast Guard follows the policies and procedures for Supply Fund financing. The Supply Fund finances the procurement and maintenance of inventories that experience repetitive demands from Coast Guard operating units. It is a

revolving fund account that procures material, sells to the consumer<sup>11</sup> and replenishes itself with the revenue (plus a surcharge) collected from sales. The Supply Fund replaced the "Free Issue" policy that provided material at no cost to the consumer. The Supply Fund policy requires the payment of an item before the requisition is processed. This financing policy makes the consumer a "true customer" in the sense the unit now pays for an item out of its budget. The Supply Fund concept reemphasizes the importance of providing the customer with the right part at the right place and at the right time-everytime! In the customer's eyes, the service provided to the fleet is only as good as the last part they received from SCCB [Ref. 12].

### **3. SCCB as an Inventory Control Point (ICP)**

As an ICP, SCCB is responsible for the effective supply support of all Coast Guard units. In addition, an ICP covers all aspects of supply operations relative to their commodity assignments as reflected in published Federal Supply Classifications (FSC) management responsibility lists. An ICP acts with the authority of the Commandant when issuing directives required for control and issue of Coast Guard material for which they have been assigned supply management responsibility. SCCB is one of three Coast Guard ICPs<sup>12</sup> that are also responsible for determining if and how material support can be provided to OGAs and the units they serve [Ref. 13].

---

<sup>11</sup>The consumer is considered to be any unit or organization (military or civilian) authorized to use the services offered by SCCB.

<sup>12</sup>The three Coast Guard ICPs are the Aviation Inventory Control Point (AICP) at AR&SC Elizabeth City, Electronics and General Supplies Inventory Control Point (E/GICP) at SUPCEN Baltimore and Ship's Inventory Control Point (SICP) at SCCB.

#### 4. Functions of SCCB

SCCB is under the technical control of Commandant (G-ELM) and is responsible for the management, control, storage, repair and issue of all Coast Guard material for which it has been assigned responsibility. SCCB's functions are to [Ref. 14]:

- Serve as an Inventory Control Point (ICP) for Coast Guard HM&E equipment.
- Perform all functions necessary for the procurement, warehousing, inventory management, and distribution of specified items of Coast Guard material.
- Administer a repair and return program for specified items of Coast Guard material.
- Negotiate and administer necessary agreements with Coast Guard, other government agencies, and private organizations for the repair and return of unserviceable material.
- Dispose of excess personal property reported by Coast Guard Districts<sup>13</sup> and Headquarters units.
- Catalog, provision and prepare unit allowances for HM&E items, including development, reproduction and distribution of publications of Coast Guard peculiar items, their identification, and sources of supply.
- Act as manager of YARD Fund stock items, and perform functions incidental to receipt, storage, control and issue.
- Ensure that procurement of Coast Guard managed parts is conducted competitively to the maximum extent practicable.

---

<sup>13</sup>The Coast Guard has 10 Districts that divide the U.S. into separate geographic jurisdictions which are commanded by flag officers.

## B. THE ORDER CYCLE

### 1. Introduction to the Order Cycle

The order cycle contains all the time-related events that make up the total time required for a customer to receive an order. An illustration of the components that make up a typical order cycle is presented in Figure 3-1. The order cycle components are order transmittal time, order processing time, order assembly time, stock availability, production time, and delivery time.

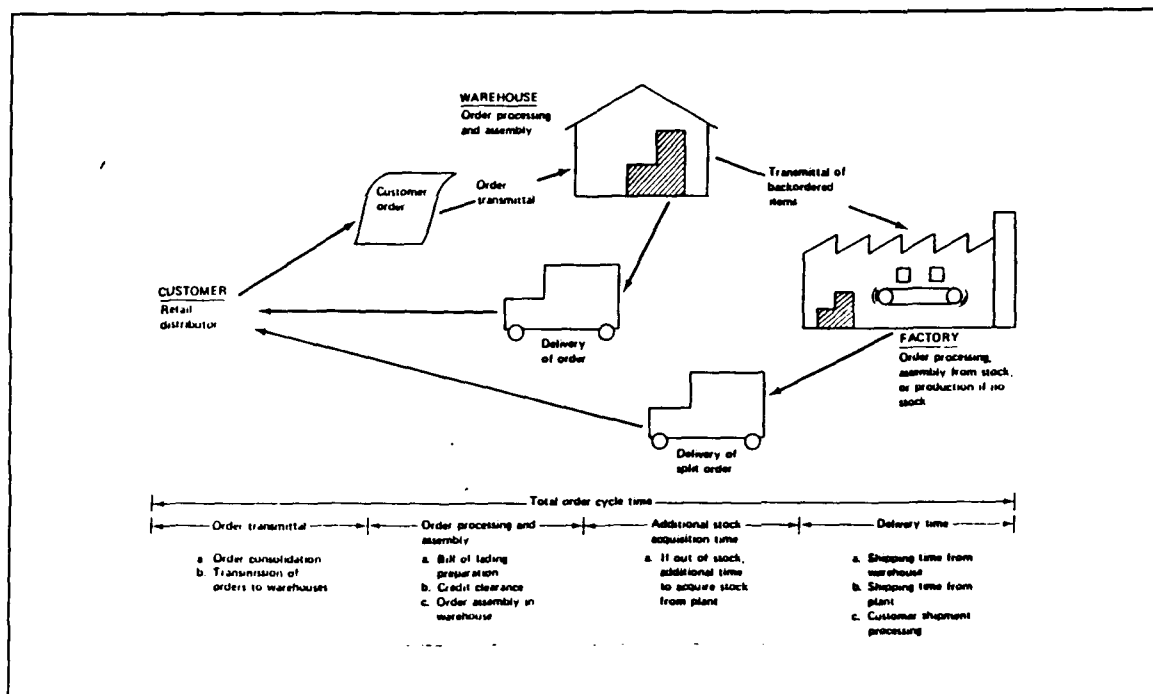


Figure 3-1 Components of a Customer Order Cycle  
(Source: Business Logistics Management, Ballou, Ronald H., 3rd Ed, 1992, p. 87)

All of these elements are controlled through the choice and design of the order transmittal methods, inventory stocking policies, order processing procedures, transport modes, and scheduling methods [Ref. 15].

## **2. Order Processing and the Information System**

The time to complete the activities of the order cycle is at the very heart of customer service. The time associated with order preparation, transmittal, entry, filling, and status reporting represent 50 to 70 percent of the total order cycle [Ref. 16]. Order processing time can represent most of the time in the customer's total order cycle. Therefore, managing the activities of the order processing component is critical if a desired level of customer service is to be achieved.

Two order processing elements that are critical to SCCB's development of a performance evaluation system are order filling and order status reporting. Order filling is the physical activity necessary to acquire the items through stock retrieval, production, or purchasing; packing the items for shipment; scheduling the shipment for delivery; and preparing the shipping documentation. Order status reporting assures that good customer service is provided by keeping the customer informed of any delays in order processing or delivery of the order. This specifically includes tracing and tracking the order throughout the entire order cycle, and communicating with the customer as to where the order may be in the order cycle and when it may be delivered [Ref. 17].

## **3. The Order Cycle at SCCB**

The order cycle at SCCB is flowcharted in Appendix A. The basic steps of the requisition process are outlined in Figure 3-2. The flowcharts are presented in a simplified version of the actual order cycle process. This thesis places an emphasis on the importance of order filling and order status reporting and concentrates its evaluation on these two processes.

SCCB's order cycle is well adapted to servicing the customer's needs with its present policies for order

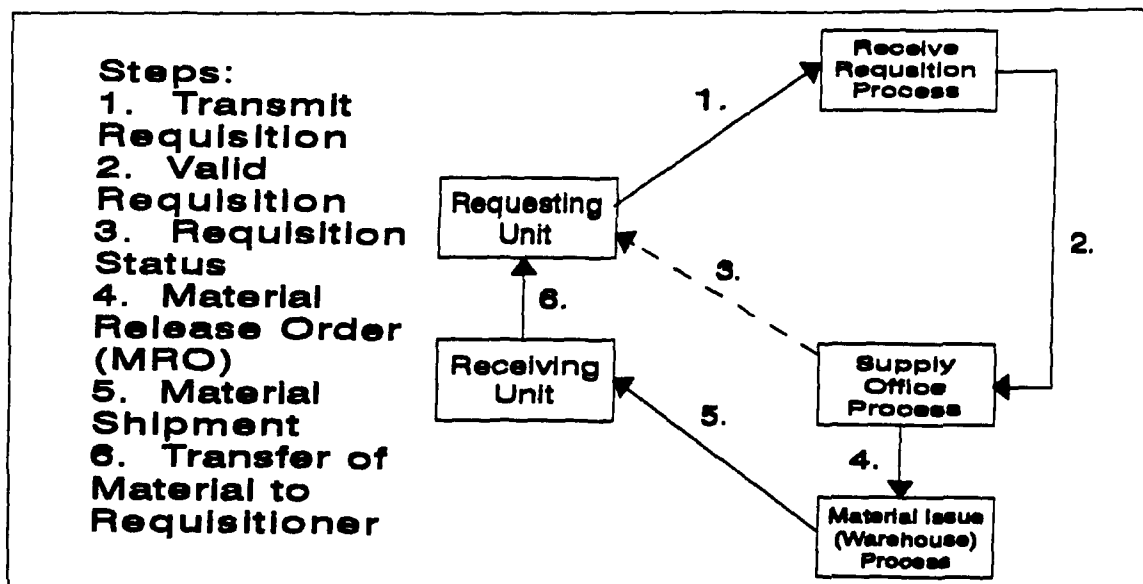


Figure 3-2 The Steps of the Requisition Process  
 (Source: Uniform Supply Management Processes  
 for Coast Guard Supply Centers, Vol 1, 1990)

transmittal, order assembly, stock availability, production and repair, and delivery. Each element is well structured, trackable, and flowcharted. The present order cycle enables SCCB to adequately meet the changing demands and needs of their customers.

This thesis specifically addresses the problems identified with tracking an item once it is shipped from the warehouse until it is receipted for. This process is not flowcharted nor is it part of any SCCB logistics policy. Chapter V offers recommendations for policy changes that will enable SCCB to track all requisitions from cradle to grave.

#### **4. Problems Identified with SCCB's Order Cycle**

During this research several problems were identified in SCCB's order cycle. The most basic problem identified is SCCB's inability to track an item once it is shipped from the warehouse. The inability to track an item prevents SCCB from determining the total time it takes to service a customer. The period of customer service begins with the receipt of a requisition and ends when the requested item is delivered

(receipted for by the requisitioner or its representative). Without the ability to determine the total time it takes to service a requisition (cradle to grave) SCCB can not measure its performance in terms of how it met the customer's needs; in this case measured by the Required Delivery Date (RDD).

Not being able to determine the cradle to grave time period leads to other problems. For instance, when a requisition requires a contracted shipment (not priority, overnight, or parcel post), SCCB's shipping department contracts for an item to be transported to a final destination within a desired time period. Transportation rates are the prices that for-hire carriers charge for their services. Various criteria are used for developing rates under various pricing situations. The most common rate structures are related to volume, distance, and demand [Ref. 18]. The shipping department pays to have an item delivered within a predetermined time period to meet the requisitioner's RDD. If the requisitioner (or its representative) is not required to receipt for delivery then SCCB will never know if the shipping company met the shipping specifications as per the contract. By tracking an item from cradle to grave, SCCB will have data in which to better evaluate contractor performance and maximize the use of its funds.

Tracking a requisition throughout the entire order cycle is important if SCCB wants to provide their customers with the same services expected from businesses in the civilian sector. Civilian companies invest considerable capital to develop and improve their shipping and tracking capabilities. Their desire to provide a quality product, at the right price, to the right place, in the right quantity, in the right condition, and when the customer wants it is paramount if they are to gain a competitive advantage. When all but one of the steps are done right and the customer is dissatisfied, then the entire effort was wasted. This is an example of the

importance of the chain of customers concept discussed in Chapter II.

The program to streamline the federal government is designed to make government spending more competitive and efficient. The government's ultimate goal (as well as the military's) is the same as in the civilian business world; to provide a quality product, at the right price, to the right place, in the right quantity, in the right condition, and when the customer wants it. According to SCCB's mission statement it too has these same goals [Ref. 12]. In order for SCCB to accomplish these goals it must have a policy to measure overall performance. This thesis outlines new policies and procedures in Chapter V that will enable SCCB to track a requisition from cradle to grave, collect necessary time data, and evaluate its level of customer service by the ability to meet customer demand.

#### **5. The Importance of Coast Guard Support Centers**

Very seldom does a floating unit ever receive a delivery directly to the pier.<sup>14</sup> Coast Guard Support Centers and Bases are located to provide logistical, receiving and warehousing services to the fleet and local shore units. All shipments are required to be delivered to their receiving dock where a contingent of civilian/military personnel receipt, store and distribute all shipments.

When a floating unit is underway, the warehouse will store all items in a designated and secure area until the vessel returns. The procedures for the receipt, transportation, storage and handling of materials is not well

---

<sup>14</sup>The exception to this is with perishable items such as galley consumables, or when dockside renovations are being conducted.

defined in published instructions.<sup>15</sup> Not one of the manuals requires acknowledgement to a Navy or Coast Guard Supply Center that a shipment has been received. In addition the Coast Guard does not have a uniform warehouse policy outlining the exact services a Support Center will provide for a floating unit. Most ships and Support Centers have unwritten and informal Memorandums of Understanding (MOUs) which differ from unit to unit.<sup>16</sup> A common procedure (unwritten and informal), used by all five Support Centers surveyed, to notify a ship underway of incoming shipments is to send a message with the requisition numbers of items received during that week. The ship in turn will inform the Support Center of those items it needs immediately and what items are to be stored in the warehouse until the ship returns to homeport.

It becomes obvious that the Support Centers and Bases are an integral part of the chain of customers. SCCB must rely on these warehouses to receive and handle a requisition before it is delivered to the final customer. With this in mind, it becomes imperative that uniform procedures are written to outline specific responsibilities for a Support Center and a Base if it is to continue to receipt for, store and distribute all shipments for the floating units. Chapter V provides draft policy changes to supplement the present manuals that will allow SCCB to track a requisition from cradle to grave and establish uniform logistical procedures for all warehouses.

---

<sup>15</sup>The Coast Guard follows the Storage and Materials Handling Manual, DOD 4145.19-R-1, the Transportation of Freight Manual, COMDTINST M4610.5, and the Supply Policy and Procurement Manual, COMDTINST M4400.19.

<sup>16</sup>Of the five Support Centers contacted only one has a formal set of written instructions outlining the services it is to provide to designated units.



#### **IV. CUSTOMER SERVICE**

This chapter defines customer service, outlines the important elements of service, and presents a methodology for SCCB to quantitatively estimate the level of service presently being performed. Actual requisition data for Fiscal Year 1993 was analyzed from five Coast Guard Cutters.<sup>17</sup> The desired result is to create a distribution curve for each of the three priority requisitions used by the High Endurance (WHEC) fleet. Since the distribution curve assumes the random sample is representative of the population, then the results of the data analysis can be used to estimate the level of customer service for SCCB's overall performance.

##### **A. CUSTOMER SERVICE DEFINED**

Defining customer service is like defining quality; it is not always as easy as it seems and is interpreted differently by each individual. A basic definition of customer service is:

Customer service refers specifically to the chain of sales-satisfying activities which usually begins with order entry and ends with delivery of product to customers, in some cases continuing on as equipment service or maintenance or other technical support [Ref. 19].

The customer's definition of service should always be used by an organization to gauge its performance. A customer views an organization in terms of price, quality and service, and respond with their patronage [Ref. 20]. Therefore, customer service is a broad term that includes many

---

<sup>17</sup>The five Coast Guard Cutters are SHERMAN, JARVIS, CHASE, MIDGETT and DALLAS. All five are 378 High Endurance Cutters.

elements ranging from availability of inventory to the timeliness of delivery. Customer service is a result of the implementation of all the elements of the order cycle and any follow-up work (warranties or additional service) that is necessary. The chain of customers concept clearly indicates the importance for all links in the chain to work together to provide the final customer with the right product, in the right condition, in the right quantity, at the right price, to the right place, and at the right time. The design of an organization's logistics system will set the level of customer service to be offered. An organization must have the ability to track its performance from start to finish in order to measure the level of service it provides to the customer. Equally important is the organization's commitment to provide the best service possible and the determination of a set level of service to be offered to the customer.

## **B. CUSTOMER SERVICE ELEMENTS**

A comprehensive study of customer service sponsored by the National Council of Logistics Management identified three categories of service according to when the transaction between the customer and the supplier took place. These categories, listed in Figure 4-1, are Pre-Transaction, Transaction, and Post-Transaction elements [Ref. 21].

Pre-Transaction elements are produced in the organization's mission statement and are outlined in other written correspondence that enables a customer to know the stated service policies. The Coast Guard's logistics policies are well documented in various publications and manuals. A SCCB customer is well informed of the military's service policy, such as expected delivery time, methods of shipment, order priority, backorder status, and inventory availability.

Pre-Transaction elements also consist of plans to accommodate nonroutine occurrences that could lead to delays such as natural disasters, labor strikes, and continuing budget resolutions. SCCB has created an organizational structure and contingency plans that are well suited to handle most impediments to normal service.

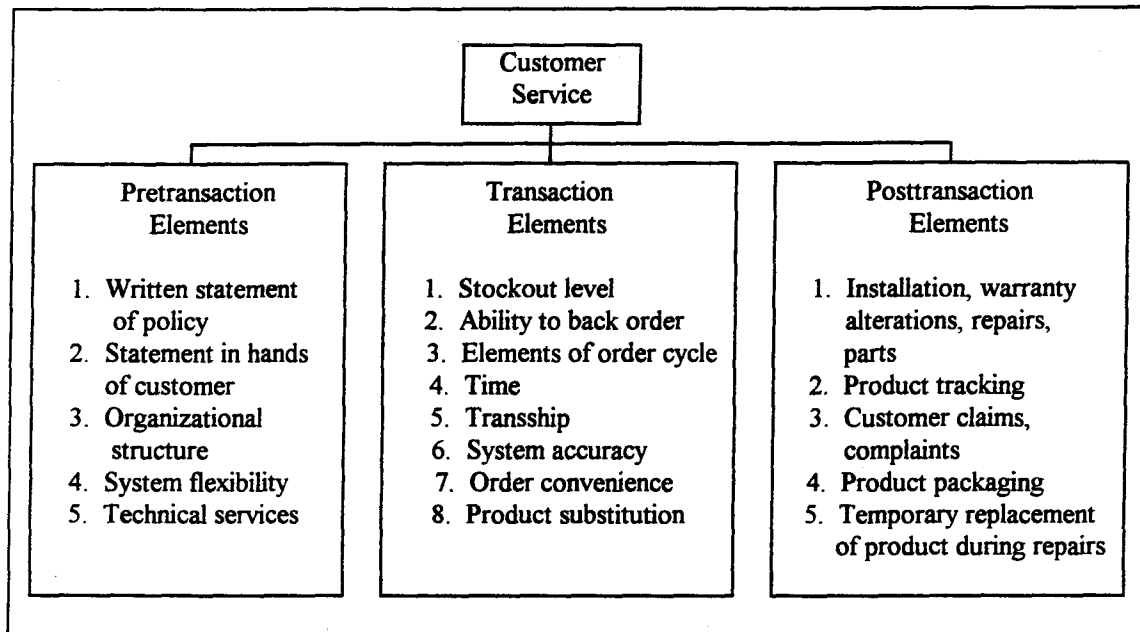


Figure 4-1 Elements of Customer Service (Source: Adapted from Bernard J. LaLonde and Paul H. Zinszer, Working Paper Series WPS 75-4, 1975)

Transaction elements relate directly to the delivery of the product to the customer. Setting stock levels, selecting transportation modes, and establishing order-processing procedures are examples. These elements affect delivery time, accuracy of order filling, condition of goods on receipt, and stock availability [Ref. 22]. A survey of purchasing and distribution executives from American industries asked them to rate their suppliers [Ref. 23]. Figure 4-2 shows that late delivery accounted for nearly half of the

mentioned service infractions while product quality mistakes represented about a third. Therefore, it is important for an organization to be able to track its product throughout the entire transaction process, especially once an item has been shipped for delivery, if it is to maximize its level of customer service.

Post-Transaction elements outline the services needed

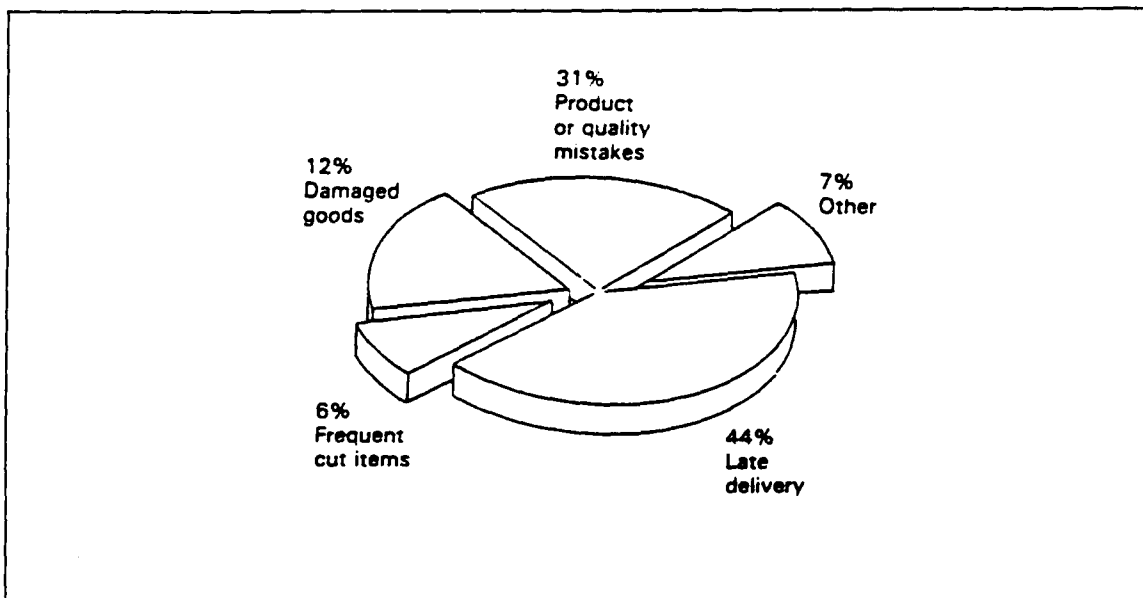


Figure 4-2 Common Customer Service Complaints  
(Source: Business Logistics Management, Third Edition, Ballou, Ronald H., 1992, p.84)

to support the product once it is in the field. This category provides for returnables due to defects, wrong orders, required turn in items, and the customer service representatives to handle complaints. These elements occur after the "sale" has occurred but must be planned for in the Pre-Transaction and Transaction stages [Ref. 24]. For SCCB this is an important element since its implementation of the supply fund concept where the customer now pays for a requisitioned item out of their operating funds. In addition to paying for their requisitions, the fleet is often required

to "turn-in" old carcasses in order to receive a wholesale price.<sup>18</sup> If a turn-in item is not returned then the customer has to pay the retail price which can be significantly higher. Post-Transaction elements are in place to accommodate the customer after the item has been delivered to insure the terms of price, quality and service have been met and maximized.

### **C. DETERMINING CUSTOMER SERVICE LEVELS**

#### **1. Uniform Material Movement and Issue Priority System (UMMIPS)**

Customer Service is often treated as a constraint on the logistics system when an accurate sales-service relationship cannot be developed. Therefore a pre-determined level of service can be selected and a logistics system designed to meet this level with a minimum cost. The level of service is often based on factors such as tradition, competitor's level of service, and the opinions of the sales force [Ref. 25]. In SCCB's case the level of customer service is relatively straight forward and easily identifiable.

The Defense Logistics Agency (DLA) has promulgated a set of time constraints to meet the demands of the different requisition priorities. The Uniform Material Movement and Issue Priority System (UMMIPS) provides guidance for issuing and moving material by ranking material requirements according to their importance. The system is designed to give recognition and preferential treatment to material needs, the lack of which will prevent or seriously impair a command's ability to carry its assigned mission. Ranking is based upon answers to two questions:

---

<sup>18</sup>Wholesale prices are lower than retail prices and usually consist of only the cost to repair the turn-in item.

1. How important is the mission of the requiring activity?
2. How urgent is the need for the material?

UMMIPS also satisfies competing material requirements by identifying the relative importance of demands not only for the material, but also for other logistics system resources, such as transportation, warehousing and paperwork administration. And most importantly, UMMIPS assigns time standards for processing requisitions and moving material [Ref. 26].

## **2. How UMMIPS Works**

UMMIPS' basic objective is to satisfy requisition demands by the expeditious processing of the requirement to the final point of issue, with due consideration for the high cost of premium transportation. UMMIPS is based on the following elements:

1. Force Activity Designator (FAD): The FAD is a number code (Roman Numerals I-V) which indicates the importance of a unit's mission or an installation, project or program with respect to national objectives. A Force/Activity is a unit, organization, body of troops, ships, aircraft, etc., performing a function or mission. The Coast Guard Force Activity Designators are provided in Appendix B [Ref. 27].
2. Urgency of Need Designator (UND): The UND is an alphabetic code (Codes A-C) that describes a unit's needs for requisitioned material. Each UND code has been defined to cover specific types of unit needs. The Coast Guard has refined DODs UND definitions into a tailored version for use within the Coast Guard logistics system without altering the basic UMMIPS philosophy. The Coast Guard Urgency of Need Designators are provided in Appendix B [Ref. 28].
3. Priority Designator for Requisitions: The supply priority designators (Priorities) for requisitions are determined through the matching of the FAD and UND. The supply priority is used by the supply system to satisfy competing material requirements and to establish a minimum delivery date. Figure 4-3 indicates appropriate

priorities to be assigned by combining a FAD with an appropriate UND. It should be noted that each requisitioner can normally choose only one of three priorities. The requisition priority will determine material allocation and all stocking activity processing, except transportation mode selection. The Required Delivery Date (RDD) entry will determine the transportation mode. In addition, Figure 4-3 sets forth the time standards for the supply of material from the time of the requirement (date of the requisition) to the time of receipt by the requisitioner. When improved service can be achieved, the time standards listed in Figure 4-3 can be bypassed [Ref. 29].

### **3. Requisition Processing and Delivery Dating**

Priority 01 through 03 requisitions and casualty requisitions (CASREPs) with priority 04 through 08 are processed on a seven-day workweek, 24-hour workday basis. All other requisitions are processed as a minimum during the normal workweek. Judicious, on-call staffing programs have been implemented at SCCB to satisfy after hour customer needs for all priorities.

The Required Delivery Date (RDD) is a calendar date used to specify when material is needed by the requisitioner and can be a date either earlier or later than the Standard Delivery Date (SDD). The SDD is the latest calendar date by which material requisitioned under a particular priority designator can be normally expected to be received by the requisitioner. The SDD is computed by adding the total time allowed as indicated in Figure 4-3 to the start time of the requisition. If the SDD meets the requirements of the system, no RDD will be entered in the requisition. When the RDD is earlier than the SDD, SCCB exerts maximum economical effort (including high speed transportation) to accomplish delivery by the specified dates. If the requisitioner wants the item any earlier than the most economical means of transportation provides, then that unit must pay for the faster shipping mode.

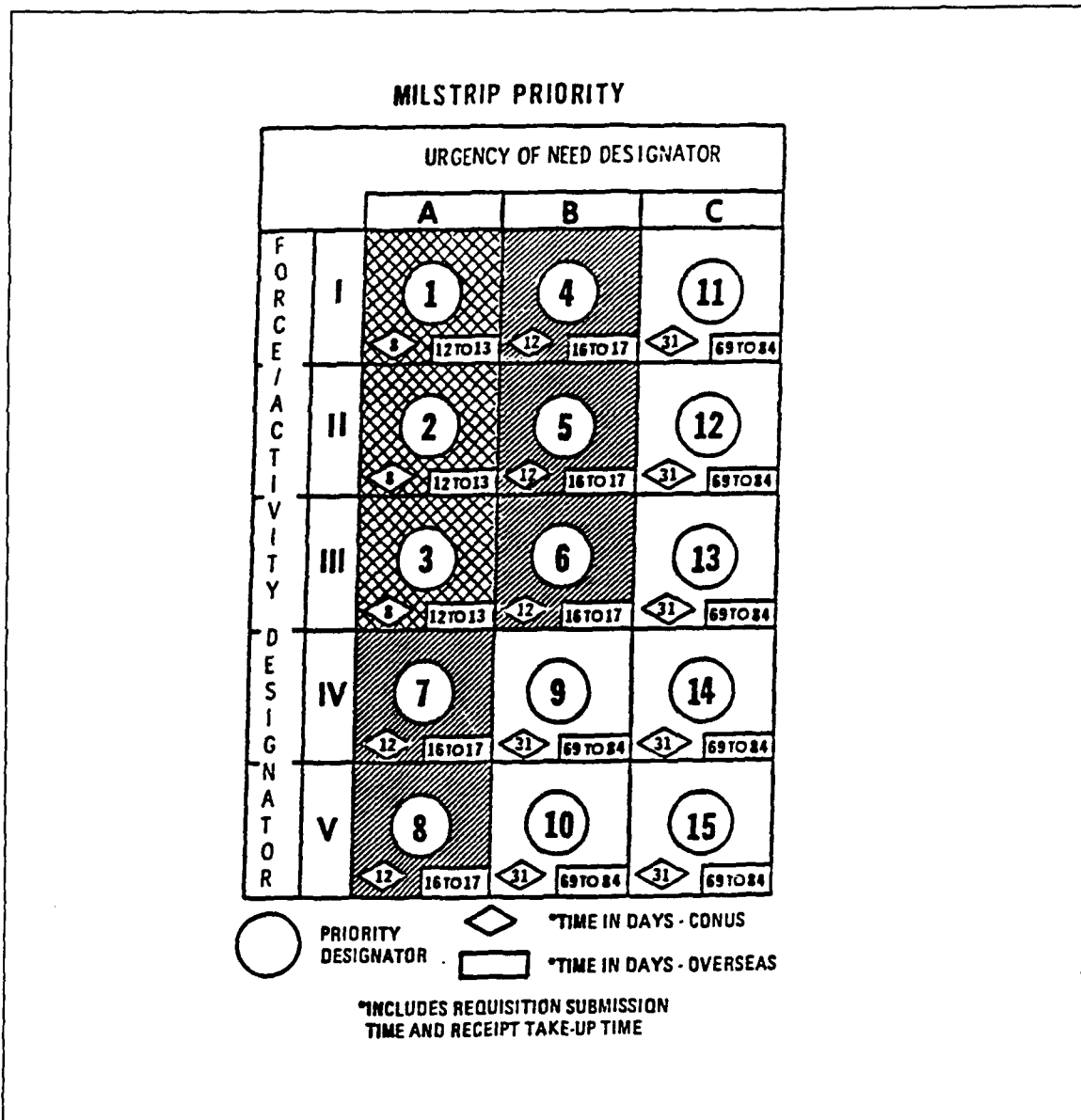


Figure 4-3 Customer Service Time Priorities  
(Source: DLA Customer Service Handbook)

#### D. SCCB'S PRESENT LEVEL OF CUSTOMER SERVICE

##### 1. Mathematically Expressing the Level of Service

The importance of customer service is clear. However, an organization needs the ability to quantify and chart its level of service if continual improvements to its order cycle elements are to be made. Charting the level of service is a

method that allows for the direct measurement of overall performance; a fitness report, if you will, for the organization. The level of customer service can be expressed graphically via a distribution curve. From the available requisition data provided in Appendix C<sup>19</sup> it is possible to graphically construct what SCCB's service performance looked like for FY 1993, at least in a generalized form. Assuming the five cutters chosen are a representative sample of the overall fleet population, a distribution curve can be developed to measure the level of service being performed by SCCB.

The Force Activity Designator for the WHEC 378 cutters (used as the random sample) is II (see Appendix B). From Figure 4-3 the Urgency of Need Designator for the WHEC cutters is either a Priority 2, Priority 5 or Priority 12. Figure 4-3 also provides the total time allowed to process a requisition from cradle to grave. The time differential is broken into two categories; CONUS<sup>20</sup> and OVERSEAS. The appropriate selection of either category depends upon the destination of the requisition. For instance, if a ship orders an item from an overseas location but wants it delivered INCONUS, then the CONUS time period is used.

In order to mathematically estimate SCCB's level of customer service for FY 1993 a LOTUS spreadsheet was designed (Appendix C). With the requisition data inputted, the LOTUS program plots the relationship between the time it took to process a requisition (from cradle to grave and from receipt until shipment) against the number of requisitions processed

---

<sup>19</sup>Appendix C provides requisition data for the five cutters mentioned previously. The data is comprised of the requisition transactions between SCCB and the five cutters during FY 1993.

<sup>20</sup>CONUS is the abbreviation for Continental United States. OVERSEAS is any other destination point.

under each priority code (2, 5, or 12). By using a simple formula, which addresses the area under the distribution curve, a mathematical estimation of the level of service is produced.

The formula used to calculate customer service is:

$$\frac{X}{X + Y} = \text{Level of Customer Service (\%)}$$

Where: **X** = # of requisitions delivered on or before the Required Delivery Date (RDD)

**Y** = # of requisitions delivered after the Required Delivery Date (RDD)

**X + Y** = Total # of requisitions for FY 1993

## **2. SCCB's Performance for FY 93**

After evaluating the data in Appendix C, the level of customer service performed by SCCB for FY 1993 is broken down into the three possible priorities for a 378 WHEC cutter (2, 5, 12) and is displayed graphically as shown in Figures 4-4, 4-5, and 4-6. Figure 4-7 shows the overall service level for the 378 WHEC fleet for FY 1993.

Figure 4-4 shows two distribution curves indicating the level of service for Priority 2 requisitions submitted by the five cutters. The first distribution curve, Figure 4-4.a, shows the requisitions processed from the time of receipt until the time of shipment from SCCB's warehouse. This distribution curve indicates a level of 100% customer service. In other words, Figure 4-4.a indicates that SCCB processed and shipped all Priority 2 requisitions for the five ships prior to their RDD. The second curve, Figure 4-4.b, shows the requisitions processed from the time of receipt until the time of delivery (cradle to grave) and indicates an overall

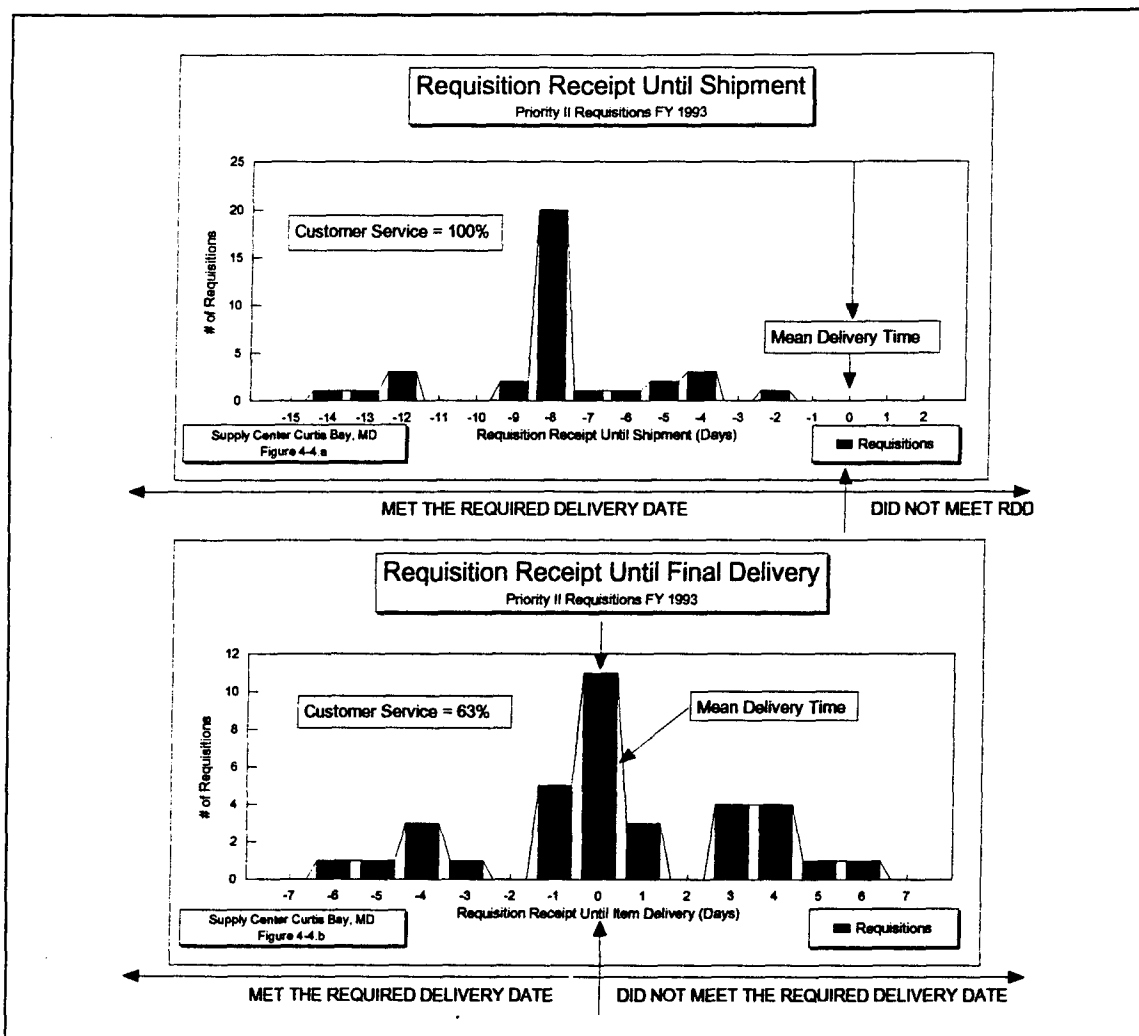


Figure 4-4.a PRI 2 Requisitions (Receipt Until Shipped)  
 Figure 4-4.b PRI 2 Requisitions (Receipt Until Delivery)  
 (Source: Appendix C)

customer service level of 63%.

With its present capabilities, SCCB can only accumulate service data tracked from requisition receipt until item shipment. This data, as shown in Figure 4-4.a, falsely shows SCCB with a 100% performance level for Priority 2 requisitions. However, when using the fleet's measurement for customer service (requisition receipt until final delivery), Figure 4-4.b, SCCB's performance level is actually only 63%.

Figure 4-5 shows the Priority 5 requisitions. The

customer service level in Figure 4-5.a shows a 73% service level for requisitions from the time of receipt until they are shipped. Figure 4-5.b shows a service level of 52% for requisitions processed from cradle to grave.

Figure 4-6 shows the Priority 12 requisitions. Figure 4-6.a shows a 100% service level for requisitions processed from the time of receipt until they are shipped. The customer service level in Figure 4-6.b is 60% for requisitions processed from cradle to grave.

Figure 4-7.a shows an overall level of customer service to be 83% for the 378 WHEC fleet from the time of receipt until the item is shipped. Figure 4-7.b show SCCB's level of performance from receipt until delivery is 55% (these are

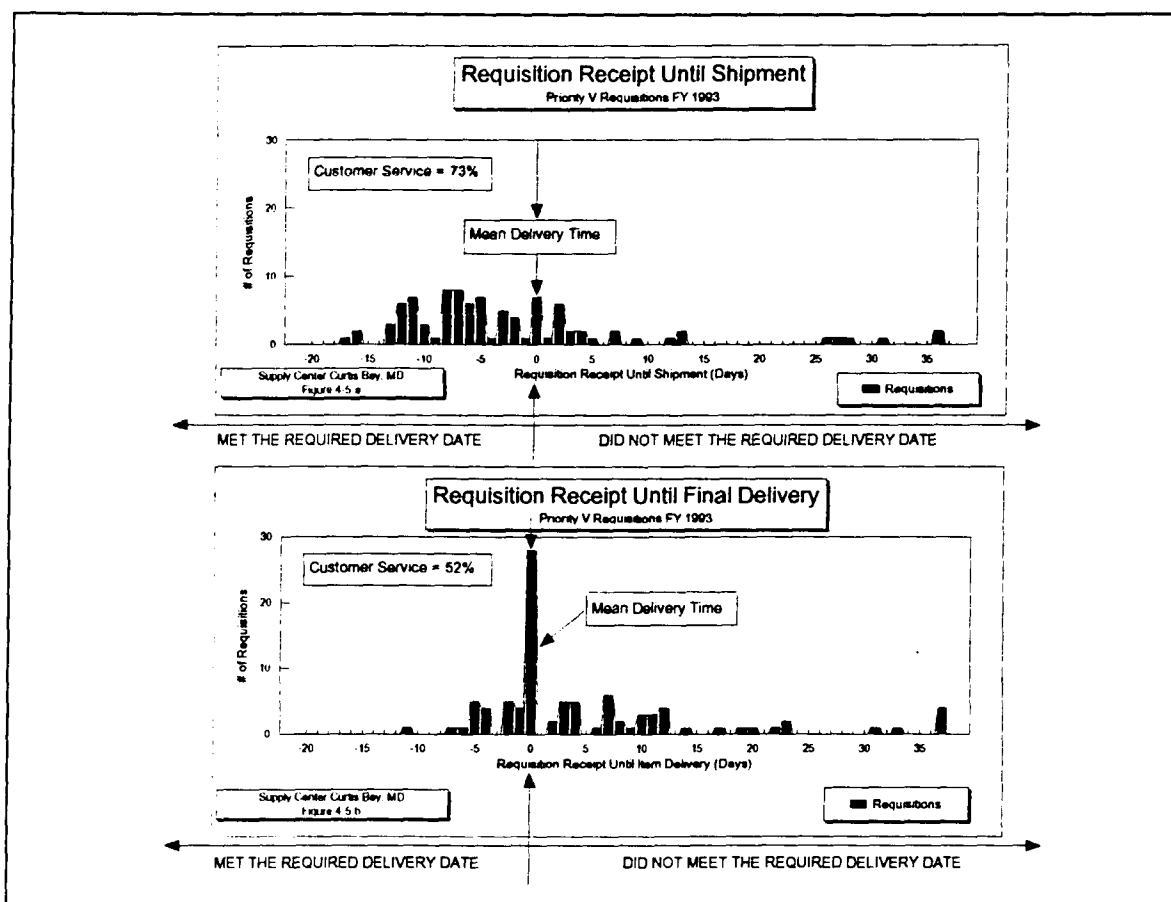


Figure 4-5.a PRI 5 Requisitions (Receipt Until Shipped)  
 Figure 4-5.b PRI 5 Requisitions (Receipt Until Delivery)  
 (Source: Appendix C)

averages of the three prioritized requisitions). The 55% is a better estimation of SCCB's true performance for FY 1993. It is considered to be a maximum level of performance due to the large variability in the data due to the estimation of the delivery times. If more accurate data for the entire order cycle was available, then the actual level of performance

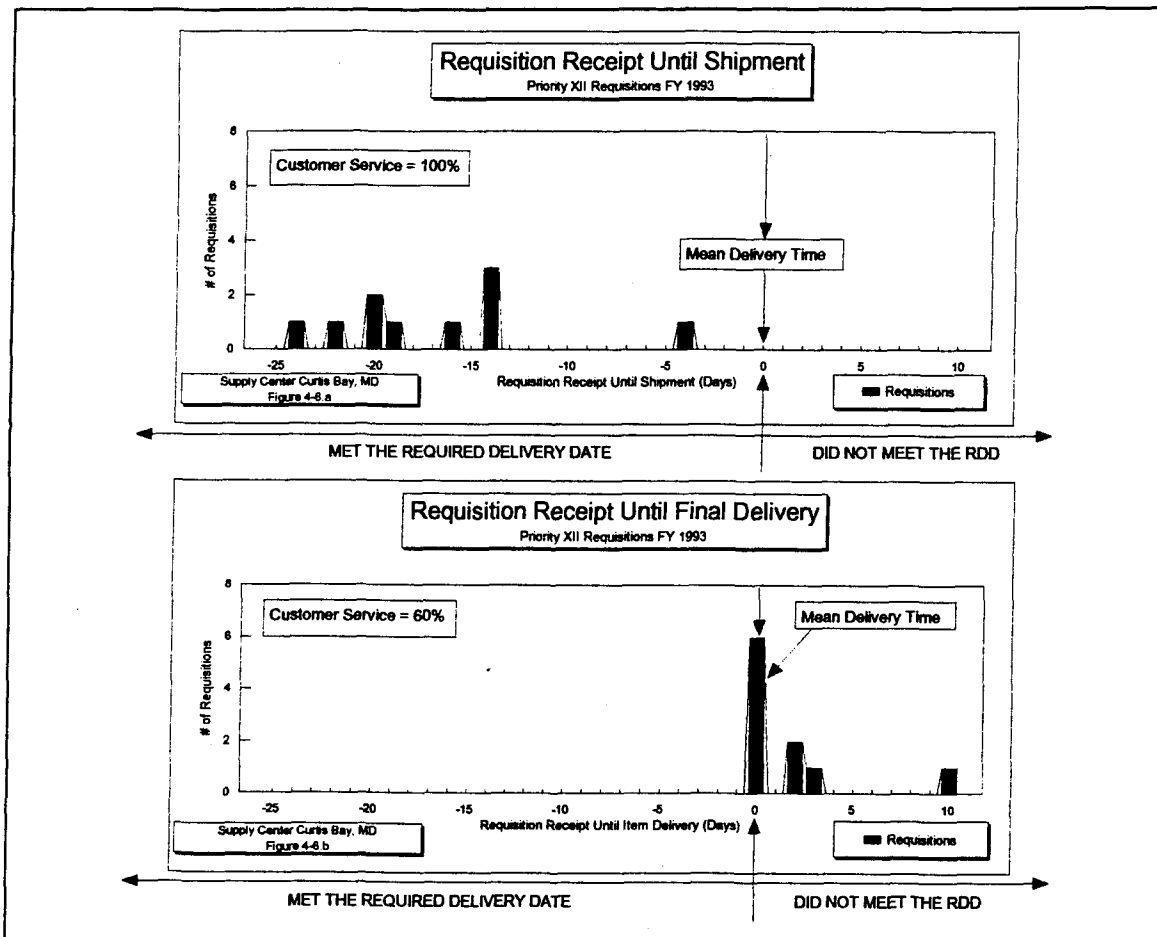


Figure 4-6.a PRI 12 Requisitions (Receipt Until Shipped)  
Figure 4-6.b PRI 12 Requisitions (Receipt Until Delivery)  
(Source: Appendix C)

would probably be less than the 55% estimate.

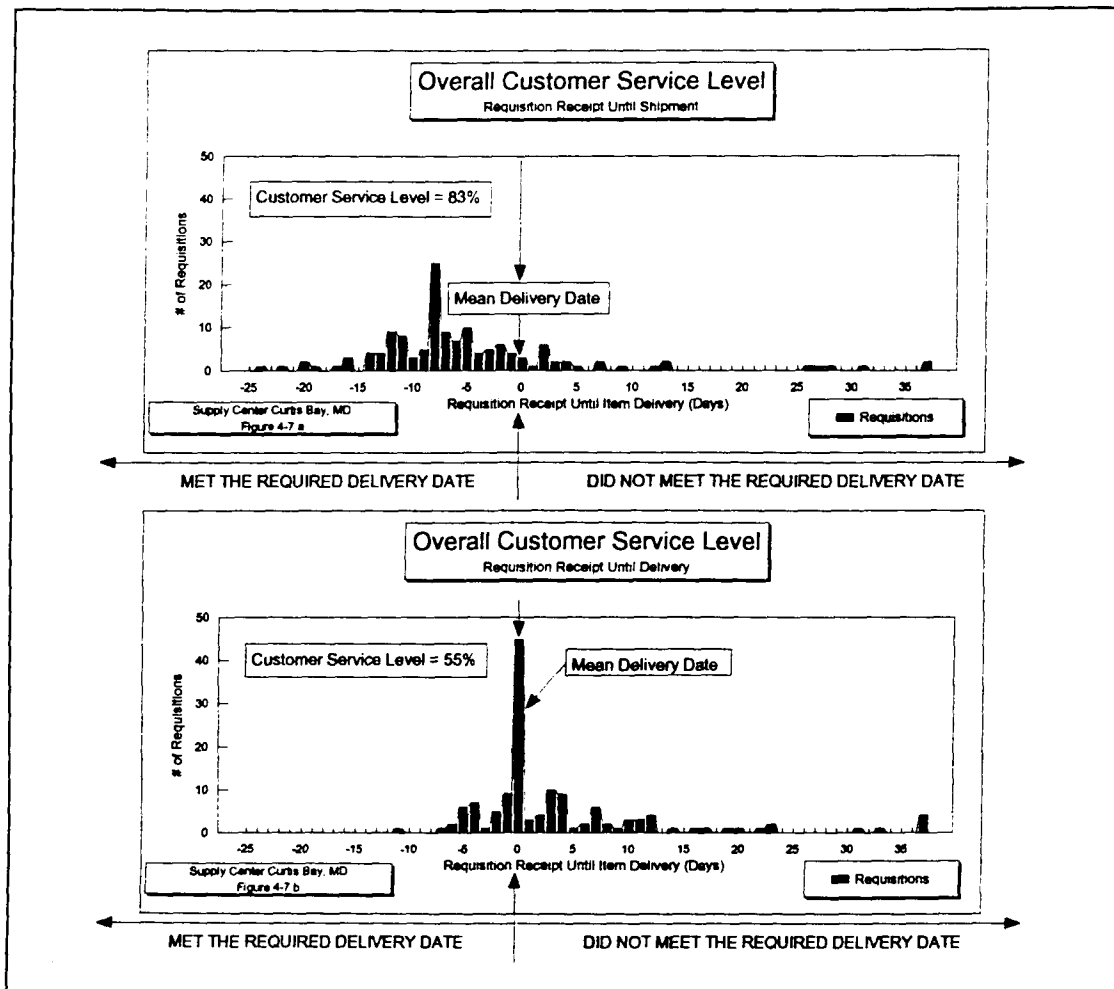


Figure 4-7.a Overall Level of Customer Service  
(Receipt Until Shipment)

Figure 4-7.b Overall Level of Customer Service  
(Receipt Until Delivery)  
(Source: Appendix C)

### 3. Assumptions and Constraints

The following assumptions and constraints are present throughout the analysis of the requisition data:

- Since SCCB does not track its requisitions throughout the entire life cycle process, an estimated time of

delivery<sup>21</sup> was added to the shipment date in order to determine the total processing time.

- The RDD was determined from the UMMIPS time standards, Figure 4-3, and based on the priority of the original requisition. It was assumed that this priority did not change throughout the course of the life cycle. A change in priority would adversely effect the service level only if the requisition was increased to a higher priority, therefore making it more difficult to meet the RDD.
- The JARVIS was the only OVERSEAS homeported cutter of the five. Therefore the OVERSEAS UMMIPS time allotment was used when estimating the RDD for JARVIS requisitions. The CONUS time estimates were used for the other four cutters. It is assumed that all requisitions were delivered to each cutter's homeport.
- There were time discrepancies with some of the original data compiled from SCCB's computer database. Estimated receipt dates were occasionally listed in the SHIPIT<sup>22</sup> file prior to the actual shipment dates. This thesis recognized the shipment dates as being factual since SCCB has the ability to track an item up to this point in the order cycle. The analysis estimated the receipt dates based on the contracted transportation mode used and the expected delivery time. This is an area of possible error that could increase the variability in the distribution curve and decrease the estimated level of customer service.
- Since SCCB does not track the requisition once it is shipped from the warehouse (or from other ICPs), these times are only estimates. Therefore the service levels presented are maximum estimations of SCCB's actual performance.

---

<sup>21</sup>The estimated times of delivery are based on the different shipment modes and the different geographic destinations. The times were calculated based on the point of origin being SCCB's shipping dock. All times were provided by SCCB's Transportation Department.

<sup>22</sup>The SHIPIT computer tracks the shipping status of a requisition and is used by the Customer Service Representatives when dealing with fleet customers.

#### **4. Background Information for Appendix C**

Appendix C consists of FY 1993 requisition data for the five cutters. The data was compiled from two of SCCB's primary computer files: SHIPIT and the Customer Master File (Historical Data). The requisition data is categorized by priority (2, 5 & 12) and formatted on a LOTUS spreadsheet for ease in analysis. Once categorized by priority, the data was analyzed using the requisition receipt date, the shipment date, the estimated receipt date, and the Required Delivery Date (RDD) to determine if SCCB met the UMMIPS time requirements for delivery.

Since SCCB can only track the requisition to the point of shipment, an analysis was done to indicate the level of service SCCB believes it is providing to the customer (shown in the graphs labeled Requisition Receipt Until Shipment). An additional analysis was conducted evaluating the time period between receipt and final delivery using estimated delivery times. This analysis indicates the level of service the customer believes they are receiving (shown in the graphs labeled Requisition Receipt Until Delivery). A frequency distribution was used to graph the data. The distribution curve graphically reveals the number of requisitions that met the RDD as well as the number of requisitions that did not.

The calculations needed to produce the actual customer service percentages are straight forward and use the formula provided earlier in this chapter. The value for X is obtained by summing the number of requisitions delivered on or before the RDD. The value for Y is obtained by summing the number of requisitions delivered after the RDD. Therefore  $X + Y$  is equal to the total number of requisitions processed by SCCB for a particular priority in FY 1993. The resultant calculation produces the percent level of customer service.

## **V. CHANGING THE COAST GUARD LOGISTICS PROCESS**

Now that the problem areas in SCCB's order cycle have been identified and the importance of customer service discussed, this thesis can now recommend changes that will result in improvements to the way SCCB does business. Since SCCB is only one link in the chain of customers there must be changes in other areas of the Coast Guard's logistics system in order to maximize overall performance. Therefore this thesis recommends a policy change for Commandant (G-E)<sup>23</sup> to implement in order to establish a uniform support policy between a cutter, a support center, and SCCB. This chapter outlines the proposed policy changes.

### **A. A CHANGE IN THE FLEET'S ROLE**

The fleet is the final customer in SCCB's order cycle. SCCB's goal has always been to meet a vessel's demands on product, price, quality, time, destination, and quantity. In order to improve performance, SCCB will need the cooperative effort of a vessel in the same way it needs the cooperation of the other links in the chain of customers. Based on present staffing, budget, and equipment capabilities it is beyond SCCB's ability to track and deliver an item directly to a vessel (especially when the vessel is underway or away from homeport). Therefore, this thesis recommends that SCCB be responsible for tracking an item until it is delivered to a vessel's designated receipt point (i.e. the support center). It is the responsibility of the vessel to coordinate final item delivery between the designated receipt point and itself.

---

<sup>23</sup>Commandant (G-E) is the staff symbol for the Coast Guard's Supply Branch responsible for managing the supply system and all aspects of its policy, systems, management and responsiveness.

With this in mind, the following policy procedures are recommended for the fleet:

- A vessel will designate a delivery point in its original requisition to SCCB. The designated delivery point will be informed of its responsibilities by receiving a copy of the original and any subsequent requisitions. It is the vessel's responsibility to keep all elements of the order cycle informed of any changes in the final destination or the priority of the requisition.
- A vessel will coordinate final delivery of an item with the designated delivery point. In addition, the vessel will fund all shipping costs needed to transport the item to the final destination.
- All vessels will incorporate these changes into their respective unit instructions and manuals.

#### B. CHANGES TO COAST GUARD SUPPORT CENTER POLICIES

No matter what level of change or improvements are implemented at SCCB, the overriding performance of the order cycle remains with how well a support center handles its responsibilities with the receipt, storage, and final delivery of a requisition. Since there are no present policies specifically outlining how a support center is to interact with SCCB and the fleet, a system of ad hoc relationships have materialized. The result is a variety of service support agreements that are not uniform throughout the Coast Guard. This thesis recommends the following support center policy changes:

- A common Memorandum of Understanding (MOU) should be promulgated to establish uniform support procedures throughout the Coast Guard. The MOU will define the roles, responsibilities, and relationships between a support center (and other units that act as a receipt, storage and distribution point for SCCB requisitions), SCCB and the fleet. Key points of the MOU are outlined below.

- With the present requisition policy, a vessel is required to identify the destination it wants a requisition to be delivered to. This destination may not always be to a vessel's homeport but rather to another geographic location. The change in destination may be a result of underway mission requirements or due to a scheduled commitment (dockside availability or shipyard period). Since a cutter is frequently away from homeport, the support center should become the designated receipt point for all requisitions. For vessels without a support center, then a base or local supply office at a station or group will act as the designated receipt point.
- As a designated receipt point, the support center will receive shipments from carriers, make a preliminary check of the container's condition, and annotate the shipping document (and 1348-1A) for all containers.
- As a designated receipt point, the support center will receive all shipments requested by the vessel through SCCB. The support center will acknowledge receipt for all SCCB requisitions. Receipt acknowledgement includes the proper filling out of the Material Receipt Document (DD Form 1348-1A or CG 6/92 Issue Release/Receipt Document), Figure 5-1. The receipt document should be filled out to indicate the individual who received the item and the date received (either in Julian or Calendar date format). The receipt document should then be returned to SCCB via a self addressed metered envelope enclosed in the outside packing label. For multiple packed items,<sup>24</sup> COPY 2 of each 1348-1A needs to be returned to SCCB. To better identify SCCB items from all others being processed, a conspicuous message will be imprinted in red on the outside of the shipping container. The message will read: "RETURN 1348-1A (COPY 2) TO SCCB VIA ENCLOSED ENVELOPE". The support center will process all other 1348-1A copies in accordance with present Commandant policy. The support center will process all non-SCCB 1348-1A's as per its present doctrine.

---

<sup>24</sup>Multiple packed items mean several requisitions packed in a single shipping container. A separate 1348-1A for each item will be included in the container and the outside packing label.



upon the availability of personnel and equipment.

- A support center will stage received material in an appropriate (secure) area assigned to each tenant command. All material received for visiting units must be separate and secure.
- Each designated receipt point will incorporate these changes into their respective unit instructions and manuals.

The role of the support center as a designated receipt point is critical for SCCB to deliver an item to its final customer. Each warehouse is an important link in the order cycle. Without the cooperation of the support center, SCCB is incapable of delivering a requisition and providing the customer with the best service possible.

#### **C. CHANGES TO SCCB'S POLICIES**

Most of the critical policy changes will occur at SCCB. SCCB's primary goal is to provide its customer with the desired item within a required time period. To do this SCCB must change its mission statement, implement a requisition tracking policy for items from cradle to grave, make minor changes in its existing software programs, include shipping and transportation as an element in its order cycle, and include the designated receipt point as part of its chain of customers. The following policy changes are recommended for SCCB:

- SCCB must change its mission statement to include shipping and tracking until receipt as part of its order cycle. The new mission statement should read:

The mission of SCCB is to centrally manage, procure, inspect, store, control, account for, issue, repair, stage, ship, and track until receipt all specified categories of materials to all Coast Guard and Coast Guard supported units and accomplish other logistical responsibilities as assigned.

- SCCB must track a requisition from cradle to grave. In order to do this SCCB must implement minor changes to its existing software programs. The primary data files of interest are SHIPIT and the Customer History File. The present SHIPIT file, Appendix D, shows the date an item was picked, packed, and shipped as well as the estimated delivery date. With a minor program change, the SHIPIT file can also include the receipt date. The Customer History file in Appendix E shows the history of a requisition as it travels through the order cycle. In the Customer History file the Document Identifier (DIC)<sup>25</sup> indicates the location (at a moment in time) of a requisition as it passes through the order cycle. SCCB presently uses the AR0<sup>26</sup> Document Identifier to close out a requisition's file once the item has been shipped. A new Document Identifier must be created if SCCB is to track a requisition until receipt. Therefore an additional change to both systems requires a new Document Identifier be established to close out the requisition file upon receipt confirmation by the designated receipt point. A Document Identifier recommended for this purpose is ZZX<sup>27</sup> [Ref. 30].
- SCCB can presently track a requisition from receipt until shipment. In order to track a requisition from cradle to grave SCCB must have a method of confirming receipt by a designated receipt point. Since a support center (or a different designated receipt point)

---

<sup>25</sup>The Document Identifier (DIC) is a three-digit code which indicates the purpose and use of the document (i.e. requisition, referral, follow-up, status, etc.). The DIC is a mandatory entry on each MILSTRIP document.

<sup>26</sup>The AR0 Document Identifier is a material release confirmation. The AR0 signifies that SCCB has shipped the item and has closed its files on the requisition.

<sup>27</sup>ZZX is a Coast Guard unique Document Identifier that can be used by SCCB for the in-house tracking of a requisition from cradle to grave.

receives the shipped item for a vessel it should therefore be responsible for confirming receipt and sending acknowledgement back to SCCB. In order to accomplish this, the designated receipt point should return the enclosed 1348-1A to SCCB. SCCB should input the receipt data (the Julian Date of receipt) into the Customer History and SHIPIT files. When the receipt date is recorded, the ZZX Document Identifier is generated which will close out the appropriate files. This will allow SCCB to track a requisition from cradle to grave which signifies the end of SCCB's responsibilities for that particular requisition.

- SCCB should enclose a metered, self-addressed envelope in the packing label along with the 1348-1A. This can be the responsibility of warehouse and packing personnel. The envelope should have SCCB's return address with attention to the Supply Department. The Supply Department will open all returned envelopes and record the receipt data in the computer data base.
- SCCB should place a message, "RETURN 1348-1A (COPY 2) TO SCCB VIA ENCLOSED ENVELOPE", in a conspicuous location on all packages prior to shipment. Since SCCB will be the only supply center (Coast Guard and DOD wide) requiring receipt acknowledgement, the message will remind support center personnel to return the 1348-1A. A potential problem with this receipt acknowledgement method is the possibility of a low return rate. The level of customer service can be estimated with the same methodology used in Chapter Four as long as SCCB receives any of the 1348-1A's. The larger the number of returned 1348-1A's, the greater the accuracy in the estimate. A larger data base will increase the confidence that the distribution curve presents an accurate picture of SCCB's true level of customer service.
- SCCB must upgrade their present computer system in order to read-in the desired data from the 1348-1A. Each 1348-1A, Figure 5-1, is bar coded with the document number, the national stock number, and other critical information (quantity, condition code, etc.). In order to read this information off the 1348-1A, a bar code interface must be added to a PRIME<sup>28</sup> terminal located in the Supply Department. A wedge unit must be procured in order to load the data directly into the

---

<sup>28</sup>The PRIME computer system is the primary data base used by SCCB.

data file. The interface will call up the document number in the Customer History file, the operator will input the Julian receipt date by hand and then enter the data to generate the ZZX Document Identifier. The ZZX DIC will close out the requisition file. According to SCCB's Planning and Procedures Branch, the cost to reprogram the SHIPIT and Customer History files, and procure the necessary equipment is approximately \$5000.00.

- SCCB will incorporate these changes into the appropriate unit manuals and instructions.

With these new procedures in place, SCCB will have the ability to track a requisition from cradle to grave. Figure 5-2 flowcharts SCCB's new responsibilities for tracking an item through each element of the order cycle after an item has been shipped.

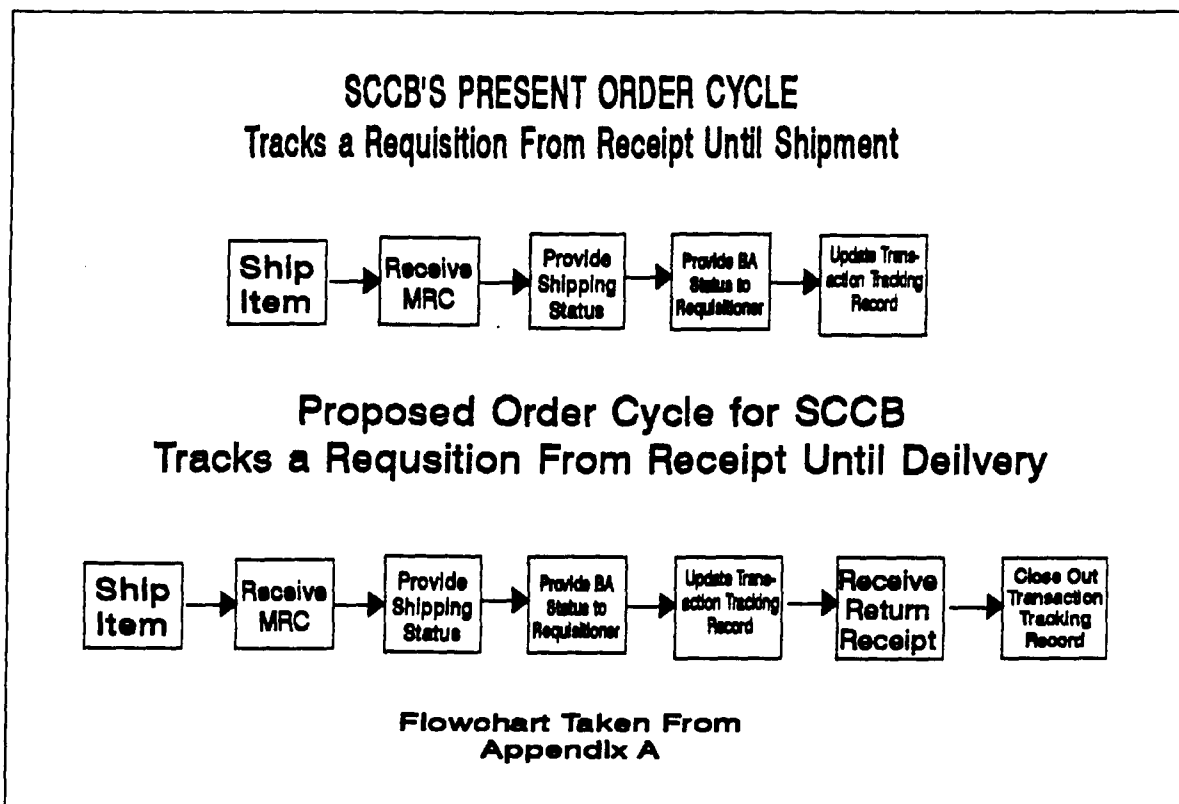


Figure 5-2 Flowchart of SCCB's Old and New Order Cycle  
(Includes the Elements After Item Shipment)

#### D. COMMANDANT (G-E) RESPONSIBILITIES TO PROMOTE CHANGE

Commandant (G-E) is responsible for all Coast Guard logistics policies and its changes [Ref. 31]. In order to implement the proposed changes outlined in this chapter the following should occur:

- Commandant (G-E) will authorize the release of an ALCOAST<sup>29</sup> message outlining the proposed policy changes. The ALCOAST message will allow for the rapid dissemination of the policy modifications. This will provide for immediate policy implementation since publication and manual changes occur once every three to five years. Appendix F provides a draft ALCOAST message that outlines the new requirements.
- Commandant (G-E) will incorporate these policy changes in the next revision to the Supply Policy and Procurement Manual, COMDTINST M4400.19.

---

<sup>29</sup>The ALCOAST message provides the widest dissemination of information and reaches all Coast Guard units. It is released under the authority of the Commandant.



## VI. CONCLUSIONS AND FINAL RECOMMENDATIONS

By now each of the research questions presented in Chapter I have been answered. This chapter summarizes the key elements presented in this thesis and offers an overview of where the Coast Guard's logistics system is presently at and what direction the policy changes will point it to.

### A. CUSTOMER SERVICE AS A PERFORMANCE MEASUREMENT

The customer's definition of service should always be used by an organization to gauge its performance. A customer views an organization in terms of quality, price, and service. An organization is in business to satisfy its customer's needs while making a profit. Although SCCB does not turn an economic profit like a civilian firm, it still must dedicate its full resources to improving the service it provides to the fleet. Customer service is a result of implementing the elements of an organization's order cycle to provide the right product, in the right condition, in the right quantity, at the right price, to the right place, and at the right time. Since maximizing customer service is SCCB's primary goal (according to its mission statement) then its overall performance can be measured by how well it processes a requisition from cradle to grave.

### B. IMPORTANCE OF TRACKING A REQUISITION FROM CRADLE TO GRAVE

An organization must have the ability to track its performance from start to finish in order to measure the level of service it provides to the customer. SCCB must implement a tracking policy that will identify each element of the order cycle from requisition receipt until final item delivery. By

tracking a requisition from cradle to grave, SCCB can determine its total order cycle time, compare it to the Required Delivery Date, and quantify its level of customer service based on whether or not the RDD was met. The methodology to quantify the service level is relatively easy and inexpensive (approximately \$5000 for reprogramming and equipment costs) as shown in Chapter IV. Charting the level of service is a method that allows for the direct measurement of overall performance--a fitness report, if you will, for the organization.

#### **C. SCCB'S NEW MISSION STATEMENT**

To ensure a focus on a common purpose, a mission statement is established. The mission statement is the concept around which an organization can rally, states the rationale for its existence, and creates value for the customer [Ref. 32]. SCCB should modify its mission statement to include the processing of a requisition from the time of receipt until the item is delivered. SCCB's new mission statement should read:

The mission of SCCB is to centrally manage, procure, inspect, store, control, account for, issue, repair, stage, ship, and track until receipt all specified categories of materials to all Coast Guard and Coast Guard supported units and accomplish other logistical responsibilities as assigned.

#### **D. DEVELOPING A BENCHMARK LEVEL OF CUSTOMER SERVICE**

Since the importance of customer service and tracking a requisition from cradle to grave is clear and the proposed policy changes have been presented, SCCB needs to determine a

goal for its level of performance. SCCB now has the methodology available to track its performance. It must also commit itself to provide the best service possible and determine a set level of service to be offered to the customer. A pre-determined level of customer service can be selected and a logistics system designed to meet this level with a minimum cost.

In SCCB's case, determining the level of customer service is relatively straight forward and easily identifiable. From the data provided in Appendix C and the methodology outlined in Chapters IV and V, an overall customer service level (from the time of receipt until final delivery) was determined to be approximately 55% (figure 4-7.b) for Fiscal Year 1993. Since the 55% is considered to be a maximum, this thesis recommends SCCB's customer service goal for FY 1995 should be 60%. Once the policy changes have been implemented and prove to be effective, a more accurate data base will be developed. The new data will allow SCCB to produce a more accurate service level estimate. With a more accurate service estimate, SCCB can modify the recommended 60% customer service level to better meet its mission requirements.

#### **E. EFFECTS ON THE ENGINEERING LOGISTICS CENTER (ELC)**

In 1996, SUPCEN Baltimore and SCCB will consolidate with other Headquarters and Maintenance and Logistics Command support units to form the ELC. In light of future changes in the Coast Guard's logistics structure, this thesis evaluates present policies and recommends new options to the way SCCB does business. It is important to identify, implement and test these policy changes prior to the consolidation of SUPCEN Baltimore and SCCB. Therefore this thesis recommends that SCCB implement the proposed changes outlined in Chapter V during Fiscal Year 1995. This will allow the policy changes

to have one to two years to see if they are successful before the ELC consolidation occurs. If the changes improve SCCB's performance and increase its level of customer service, then the changes can be modified to meet SUPCEN Balitmore's mission requirements upon consolidation.

#### **F. POTENTIAL BENEFITS FROM THE POLICY CHANGES**

The potential benefits for the Coast Guard's logistics system and SCCB are:

- The fleet will have uniform supply and support procedures from support centers throughout the Coast Guard. Therefore no matter what geographic district a vessel is assigned, the support policies and procedures will be identical.
- By receiving a weekly message from a support center, a vessel will improve its ability to track the status and location of its requisitions. In addition, a vessel's onboard storage capacity will improve by temporarily storing non-critical parts and equipment in a secure location at a support center.
- The support centers will have uniform supply and support procedures. There will be no need to generate individual Memorandums of Understanding (MOU's) for each unit located in a support center's geographic area of responsibility.
- Since a support center is responsible for all items received and stored in its warehouse, the new support policies will allow for better tracking and inventory methods. In addition, a support center will be better able to support a vessel when underway to maintain a more accurate inventory of its temporary holdings.
- A return receipt will allow SCCB to close out a requisition's file when the final customer receives an item. When receipt has been acknowledged, SCCB will have fulfilled its responsibilities to the fleet.
- A return receipt will allow SCCB to track the shipment

mode<sup>30</sup> of the order cycle. Since each shipment is either contracted or parcel post, the Transportation Department will have a tool to measure the performance of the shipper. This new tool can be used to evaluate a shipper when its contract is up for re-bid and to evaluate whether or not the contract specifications have been met.

- A return receipt will allow SCCB to track a requisition from cradle to grave. With this ability, SCCB will be able to determine whether or not it met the Required Delivery Date of a requisition. A return receipt will allow SCCB to measure its overall performance through its level of customer service.
- By tracking a requisition through the entire order cycle, SCCB will be able to improve its overall efficiency. Each element of the order cycle is critical to the success of the organization. SCCB will be able to identify elements that slow down the requisition process and enable it to correct the problem before it effects overall performance.
- If the policy changes prove effective, then the same changes should be implemented at SUPCEN Baltimore upon its consolidation with the ELC. In addition, the same policies should be used at Aircraft Repair and Supply Center Elizabeth City (AR&SC) to allow for uniform receipt procedures throughout the Coast Guard.

When looking at the big picture, these potential benefits will help streamline the Coast Guard's logistics system by improving the efficiency of a supply center and by developing a uniform working relationship between a vessel, its support center, and SCCB. In addition, the changes will provide SCCB with the ability to track a requisition from cradle to grave and allow it to measure its service performance. These benefits are immediately achievable and at a minimum cost (approximately \$5000).

---

<sup>30</sup>The following is a breakdown of shipping modes used for a total of 16,727 requisitions in 1993: UPS: 36.9%, Parcel Post: 29.7%, Overnight: 14.5%, Truck: 18.7%. (Source: SCCB's Transportation Department)

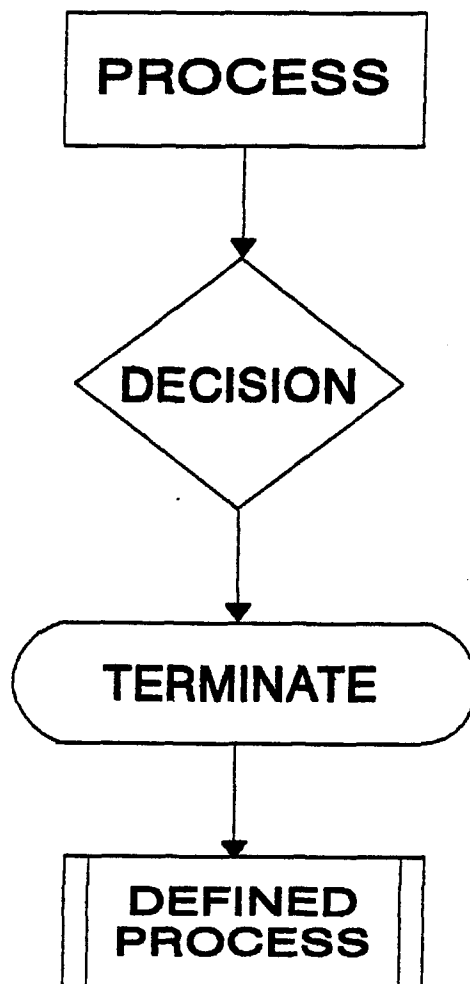
## G. SUMMARY

The budget issues the Coast Guard faces today are very real. Every unit needs to better manage its budget and use its limited resources wisely. The Coast Guard has drastically altered its supply policies and procedures in an effort to streamline the logistics system. Unfortunately the Coast Guard did not include the tools necessary to measure performance and the level of customer service. There are no tools for receipt acknowledgement, requisition tracking, or producing a distribution curve from requisition data. Therefore, the Coast Guard needs to establish policies that set a benchmark level of customer service, set performance measuring guidelines, allow a supply center to track a requisition from cradle to grave, and promulgate uniform warehouse and receipt procedures.

This thesis proposes such policies for SCCB. It recommends a methodology for SCCB to track a requisition from cradle to grave, proposes a policy for calculating the level of customer service and develops a benchmark to be used as an evaluation guideline for order cycle performance. Whatever the resulting mechanisms are, SCCB must assume responsibility for the tracking of a requisition from receipt until delivery if they are to accurately measure their performance in the same way their performance is measured by their customers.

## APPENDIX A. FLOW CHART OF SCCB'S ORDER CYCLE

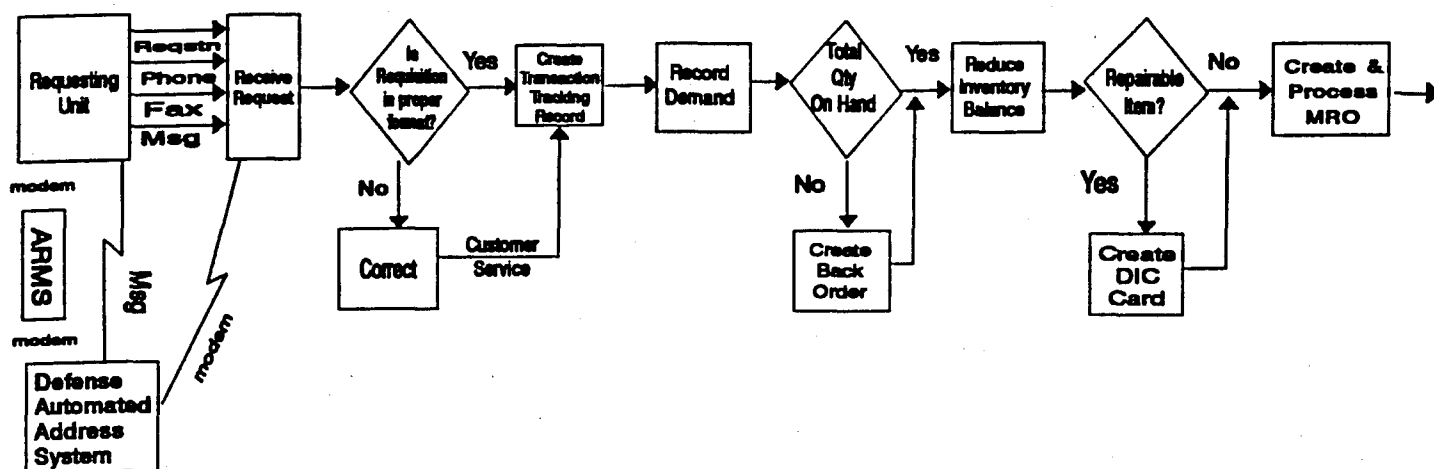
This appendix presents flow diagrams of the material management processes at SCCB. It may be compared with similar processes at SUPCEN Baltimore. The symbols used in the flow chart are defined below.



①

## RECEIVE REQUISITION PROCES

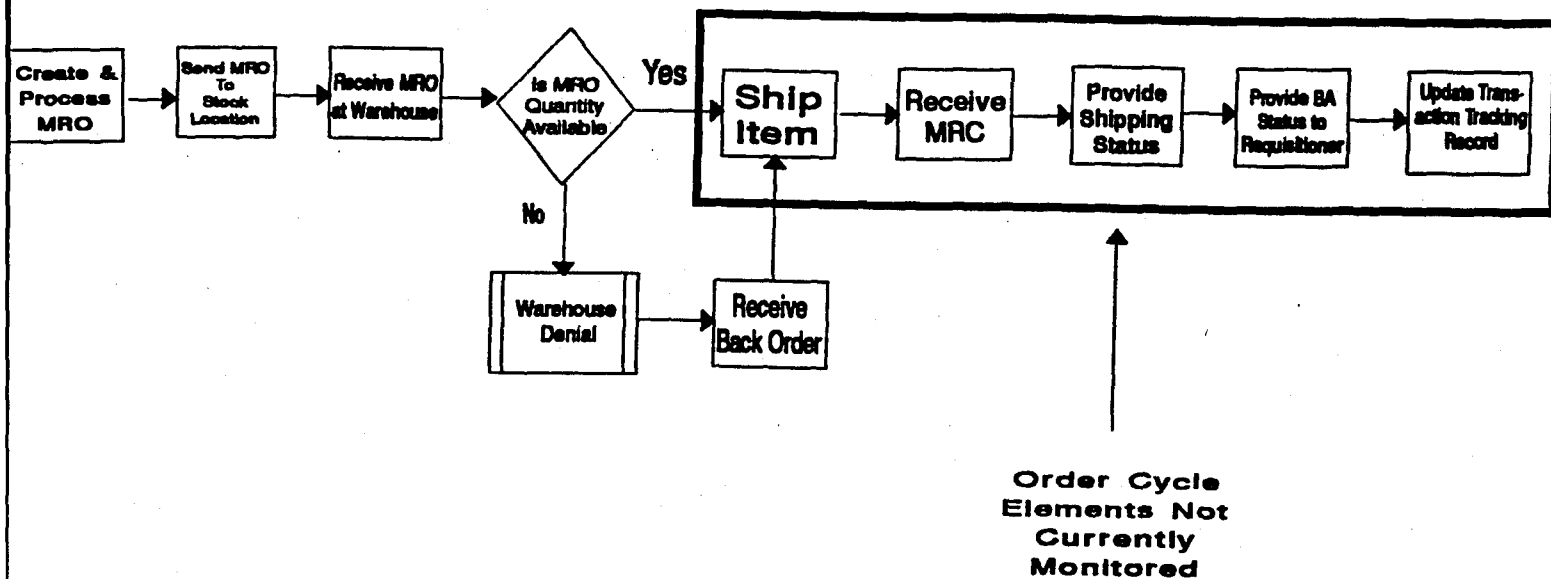
START



2

N PROCESS

FINISH



## **APPENDIX B. UNIFORM MATERIAL MOVEMENT AND ISSUE PRIORITY SYSTEM (UMMIPS) DESIGNATORS**

The Coast Guard's use of UMMIPS is based on the Force Activity Designator (FAD) and the Urgency of Need Designator (UND). By combining a FAD with an appropriate UND, a requisition priority will be determined. The requisition priority will determine material allocation and all stocking activity processing, except transportation mode selection. The RDD entry will determine the transportation mode.

### **A. FORCE ACTIVITY DESIGNATOR (FAD) ASSIGNMENTS**

- FAD I assignments are for Coast Guard peacetime programs of vital national concern fulfilling a national objective and during wartime or hostilities as required by the Chief of Naval Operations (CNO). FAD I's must be authorized by the Joint Chiefs of Staff (JCS) and approved by the Secretary of Defense.
- FAD II and FAD III assignments are for Coast Guard units included under DOD Navy Force Status (NAVFORSTAT) reporting of Worldwide Military Command and Control System (WWMCCS) based upon depth of readiness and combat support. FAD II assignments are also approved for aircraft service acceptance trials conducted by the Board of Inspection and Survey.
- FAD IV assignments are for Coast Guard units performing secondary type missions, such as host support functions (depots), or engaged in activities such as testing, research and liaison.
- FAD V assignments are for Coast Guard units performing administrative, training, Reserve missions, inspection, medical liaison and similar types of missions.
- Any Coast Guard unit engaged in logistics support of Search and Rescue (SAR) or Law Enforcement missions may use FAD II's. This applies to requisitioning, processing, supplying or transporting material in support of SAR and Law Enforcement requirements.

Listing of Coast Guard Force Activity Designators (FADS)

<u>UNIT</u>	<u>FAD</u>	<u>UNIT</u>	<u>FAD</u>
<u>MISSION SUPPORT PROGRAMS:</u>			
LAW ENFORCEMENT	II	MAINTENANCE AND LOGISTICS CMD	III
SEARCH & RESCUE (SAR)	II	MARINE INSPECTION OFFICES	III
OIL POLLUTION ABATEMENT	II	MARINE SAFETY DETACHMENTS	III
WAGB	II	MARINE SAFETY OFFICES	III
WHEC	II	MARINE SAFETY ZONES	III
WMEC	II	NATIONAL DATA BUOY DETACHMENT	III
WPB	II	NMLB SCHOOL	III
WTR	II	PORT SAFETY DETACHMENT	III
WSES	II	PRIMARY CREW ASSEMBLY FACILITY	III
AIR STATIONS/FACILITIES	II	RADAR INSTALLATION TEAM	III
HEADQUARTERS	II	RADIO BEACON STATION	III
LORAN C (INCL A/C & MONITORS)	II	RADIO/COMMUNICATION STATION	III
MOBILE AEROSTAT PLAT. DETACH	II	RADIO STATIONS	III
MOBILE AEROSTAT SQUADRON	II	RESIDENT INSPECTORS	III
NATIONAL DRUG INTERDICTION TFG	II	RTC YORKTOWN	III
OMEGA UNITS	II	R&D CENTER GROTON	III
ONSOD	II	SHIP REPAIR DETACHMENT	III
PATROL BOAT SQUADRON	II	SICP	III
STRIKE TEAMS	II	SMALL ARMS REPAIR SHOPS	III
SURFACE EFFECTS SHIP DIVISION	II	STATIONS	III
		SUPPLY CENTER BROOKLYN	III
		SUPPLY CENTER CURTIS BAY	III
		SUPPORT CENTER/BASES	III
		TRAINING CENTERS	III
		VESSEL TRAFFIC SERVICES	III
WIX	III		
WLB	III		
WLI	III		
WLIC	III		
WLM	III		
WLR	III	COMDAC SUPPORT FACILITY	IV
WYTL	III	DEPOTS	IV
WTGB	III	FIRE AND SAFETY TEST FACILITY	IV
		INSTITUTE	IV
ACADEMY	III	LIAISON OFFICE CINCLANT	IV
ACTIVITIES EUROPE	III	MERCHANT MARINE DETAILS	IV
AICP	III	PAY AND PERSONNEL CENTER	IV
AIRCRAFT PROGRAM OFFICE	III		
AIDS TO NAVIGATION TEAMS (ANT)	III		
AR&SC	III		
ATC MOBILE	III	ALL OTHERS	V
AVIATION TECH. TRAINING CTR	III		
BOATING SAFETY DETACH.	III		
BOATING SAFETY TEAM	III		
COAST GUARD YARD	III		
DISTRICT OFFICES	III		
ELECTRONICS ENG CEN WILDWOOD	III		
E/GICP	III		
ELECTRONICS SUPPORT DETACHMENT	III		
ELECTRONICS SUPRT SHOPS-TELEPHONE	III		
FOG SIGNAL STATIONS	III		
GROUP OFFICES	III		
INFORMATION SYSTEMS CENTER	III		
INTERNATIONAL ICE PATROL	III		
LIAISON OFFICE SPCC	III		
LIAISON OFFICE DPSC	III		
LIAISON OFFICE NSC OAKLAND	III		
LIAISON OFFICE NSC NORFOLK	III		
LORAN C DETAILS	III		

NOTE:

Any Coast Guard unit assigned a lesser FAD authority but supporting programs of law enforcement, SAR and oil pollution abatement missions may use FAD II's only when ordering mission-related materiel. FAD II assignments are also approved for aircraft service acceptance trials conducted by the Board of Inspection and Survey.

**B. URGENCY OF NEED DESIGNATOR (UND) ASSIGNMENTS**

The basic UND's are set forth below:

<u>UND CODE</u>	<u>EXPLANATION</u>
A	Material needed for immediate use, without which the unit is unable to perform its mission, or to make urgent repairs to essential equipment.
B	Material needed for immediate use, without which the unit's mission capability is impaired; or material needed for repair of auxiliary equipment; replace safety levels when last spares have been issued.
C	Material needed for scheduled repairs, replenishment of stock and other routine purposes.



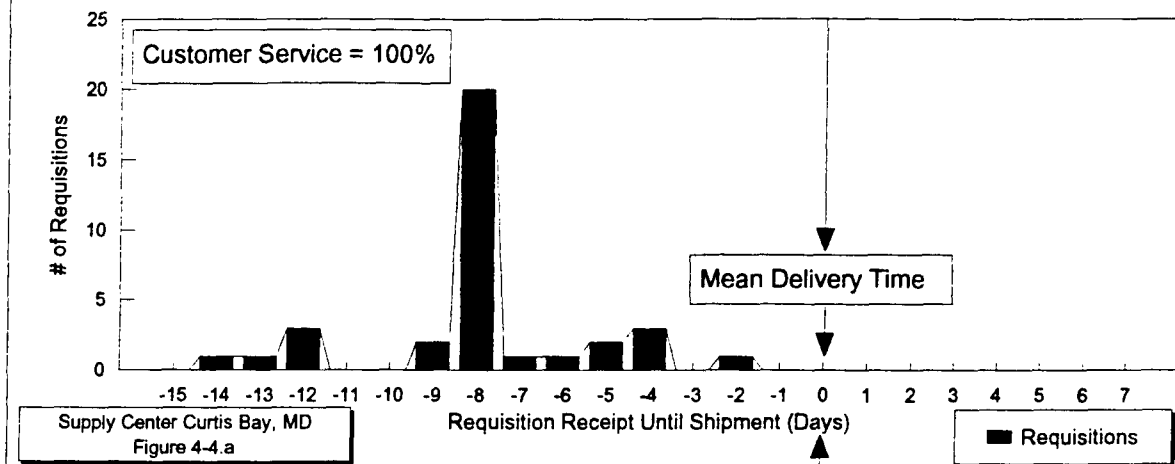
# APPENDIX C. REQUISITION DATA ANALYSIS FOR FY 93

## PRIORITY TWO REQUISITIONS FOR FISCAL YEAR 1993

Number of Transactions	Unit Name	Document Number	Rqstn Date	Ship Date	Receive Date	RDD	Difference in Shipped	Difference in Receipt	Range In Shipped	Frequency In Shipped	Range In Receipt	Frequency In Receipt
1	JARVIS	ZJ71713088W207	93090	93090	93097	93103	-13	-6	-15	0	-15	0
2		ZJ71712365W118	92365	92364	93008	93013	-14	-5	-14	1	-14	0
3		Z1141130901624	92363	92362	93006	93009	-12	-3	-13	1	-13	0
4		Z114113078W075	93081	93082	93090	93094	-12	-4	-12	3	-12	0
5		Z1141130751568	93076	93077	93085	93089	-12	-4	-11	0	-11	0
6	CHASE	Z114043154W052	93155	93155	93166	93163	-8	3	-10	0	-10	0
7		Z114043041W027	93041	93041	93054	93049	-8	5	-9	2	-9	0
8		Z114043041W028	93041	93041	93049	93049	-8	0	-8	20	-8	0
9		Z114043041W029	93041	93041	93049	93049	-8	0	-7	1	-7	0
10		Z114043039W022	93043	93043	93047	93051	-8	-4	-6	1	-6	1
11		Z114043201W061	93201	93201	93209	93209	-8	0	-5	2	-5	1
12		Z114043209W063	93209	93209	93217	93217	-8	0	-4	3	-4	3
13		Z114043054W032	93056	93055	93063	93064	-9	-1	-3	0	-3	1
14		Z1140431723839	93172	93172	93180	93180	-8	0	-2	1	-2	0
15		Z1140431813874	93181	93181	93189	93189	-8	0	-1	0	-1	5
16		Z114043175W057	93175	93183	93191	93191	-8	0	0	0	0	11
17		Z1140432374283	93239	93242	93250	93247	-5	3	1	0	1	3
18		Z1140432464428	93251	93252	93260	93259	-7	1	2	0	2	0
19		Z1140432174118	93218	93218	93229	93226	-8	3	3	0	3	4
20		Z1140423431863	92344	92344	92352	92352	-8	0	4	0	4	4
21		Z1140432654623	93267	93270	93278	93275	-5	3	5	0	5	1
22		Z114043091W048	93092	93092	93100	93100	-8	0	6	0	6	1
23	SHERMAN	Z1140632439220	93257	93257	93266	93265	-8	1	7	0	7	0
24		Z1140632459221	93246	93250	93258	93254	-4	4		0		0
25		Z1140632459222	93246	93250	93258	93254	-4	4				
26		Z1140632529224	93253	93253	93265	93261	-8	4				
27		Z1140632459223	93246	93250	93258	93254	-4	4				
28		Z1140623509053	92351	92350	92358	92359	-9	-1				
29		Z1140623509054	92351	92351	92358	92359	-8	-1				
30		Z1140622479243	92314	93320	93328	93322	-2	6				
31		Z114063033W117	93034	93034	93042	93042	-8	0				
32		Z1140623039015	92304	92304	92311	92312	-8	-1				
33	DALLAS	Z114022317W005	92318	92320	92325	92326	-6	-1				
34		Z114023206W906	93208	93208	93216	93216	-8	0				
35		Z1140223576488	92357	92357	93001	92365	-8	1				
36	MIDGETT											

## Requisition Receipt Until Shipment

Priority II Requisitions FY 1993

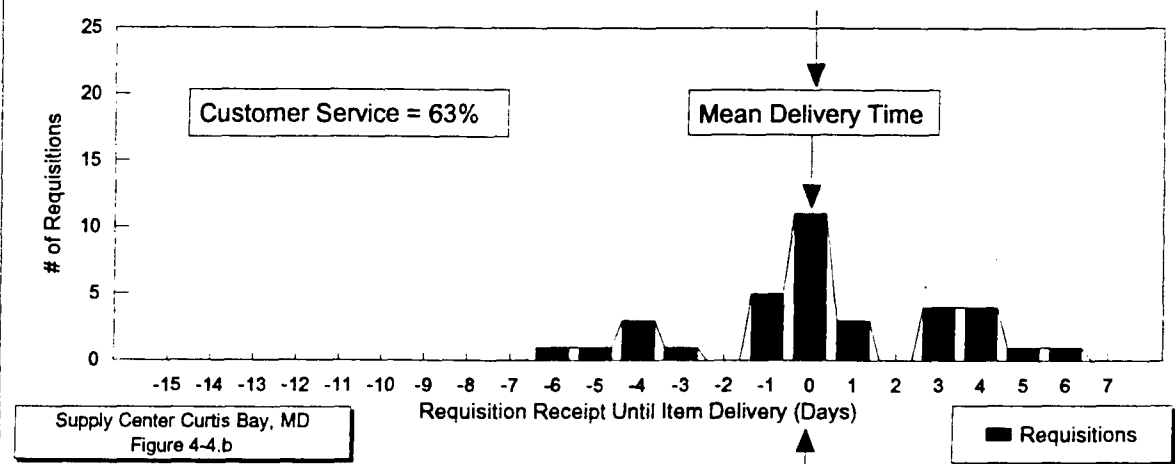


MET THE REQUIRED DELIVERY DATE

DID NOT MEET RDD

## Requisition Receipt Until Final Delivery

Priority II Requisitions FY 1993



MET THE REQUIRED DELIVERY DATE

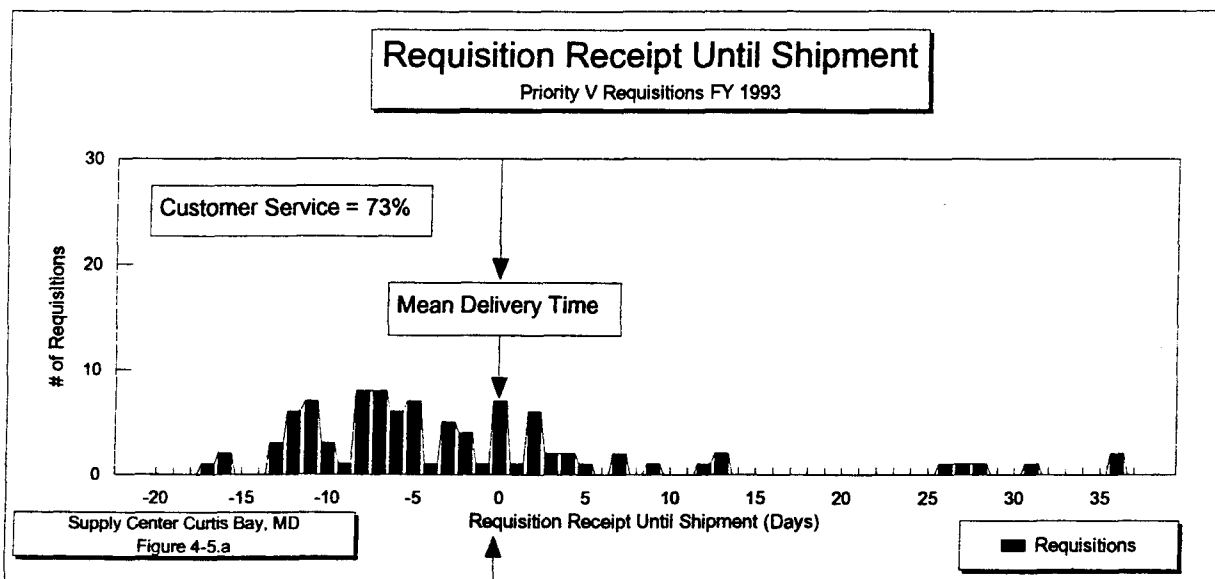
DID NOT MEET RDD

PRIORITY FIVE REQUISITIONS FOR FISCAL YEAR 1993

Number of Transactions	Unit Name	Document Number	Rqstn Date	Ship Date	Receive Date	RDD	Difference in Shipped	Difference in Receipt	Range In Shipped	Frequency In Shipped	Range In Receipt	Frequency In Receipt
1	JARVIS	Z1141130371048	93039	93054	93064	93056	-2	8	-20	0	-20	0
2		Z1141130901624	93092	93140	93146	93109	31	37	-19	0	-19	0
3		Z1141130941660	93096	93140	93146	93113	27	33	-18	0	-18	0
4		Z1141130791597	93081	93140	93146	93098	42	48	-17	1	-17	0
5		Z1141123450659	92346	93008	93018	93007	1	11	-16	2	-16	0
6		Z1141132142456	93215	93225	93228	93232	-7	-4	-15	0	-15	0
7		ZJ717123383151	92340	92341	92350	92357	-16	-7	-14	0	-14	0
8		ZJ717123383150	92340	93020	93030	92357	28	38	-13	3	-13	0
9		Z1141123580775	92365	93019	93029	93017	2	12	-12	6	-12	0
10		Z1141123580776	92365	93019	93029	93017	2	12	-11	7	-11	1
11		Z1141131021686	93112	93116	93125	93129	-13	-4	-10	3	-10	0
12		Z1141130110846	93012	93026	93036	93029	-3	7	-9	1	-9	0
13		Z1141130541357	93057	93146	93151	93074	72	77	-8	8	-8	0
14		Z1141130901622	93092	93102	93107	93109	-7	-2	-7	8	-7	1
15		Z1141130551473	93057	93074	93084	93074	0	10	-6	6	-6	1
16		Z1141130791578	93081	93090	93094	93098	-8	-4	-5	7	-5	5
17		Z1141130791579	93081	93095	93105	93098	-3	7	-4	1	-4	4
18		Z1141123220440	92324	92334	92336	92341	-7	-5	-3	5	-3	0
19		Z1141123220439	92324	92334	92336	92341	-7	-5	-2	4	-2	5
20		Z1141130791573	93081	93095	93105	93098	-3	7	-1	1	-1	4
21		Z1141123220441	92324	92334	92336	92341	-7	-5	0	7	0	28
22		ZJ717130749367	93076	93077	93088	93093	-16	-5	1	1	1	0
23		ZZ000131899364	93195	93195	93201	93212	-17	-11	2	6	2	2
24		ZZ000130959370	93095	93099	93108	93112	-13	-4	3	2	3	5
25		ZZ000130929359	93092	93097	93107	93109	-12	-2	4	2	4	5
26	CHASE	Z1140421353325	93081	93097	93103	93093	4	10	5	1	5	0
27		Z1140431173552	93123	93130	93138	93135	-5	3	6	0	6	1
28		Z1140432314274	93235	93239	93248	93248	-9	0	7	2	7	6
29		Z1140430702806	93071	93076	93086	93083	-7	3	8	0	8	2
30		Z1140422811032	92283	92295	92298	92295	0	3	9	1	9	1
31		Z1140423181614	92321	92324	92334	92334	-10	0	10	0	10	3
32		Z1140430112329	93235	93245	93255	93247	-2	8	11	0	11	3
33		Z1140422861080	92288	92295	92300	92300	-5	0	12	1	12	4
34		Z1140430492695	93050	93075	93085	93062	13	23	13	2	13	0
35		Z1140431033191	93105	93112	93137	93117	-5	20	14	0	14	1
36		Z1140422861083	92288	92295	92300	92300	-5	0	15	0	15	0
37		Z1140430492700	93050	93075	93085	93062	13	23	16	0	16	0
38		ZZ000130929358	93092	93097	93104	93104	-7	0	17	0	17	1
39		Z1140422614440	93196	93211	93215	93208	3	7	18	0	18	0
40		Z1140430082310	93011	93025	93035	93023	2	12	19	0	19	1
41		Z1140430082311	93011	93025	93035	93023	2	12	20	0	20	1
42		Z1140423371770	92342	93015	93020	92354	26	31	21	0	21	0
43		Z1140430152470	93021	93036	93047	93033	3	14	22	0	22	1
44		Z1140421363326	93081	93097	93103	93093	4	10	23	0	23	2
45		Z1140423371774	92342	92349	92354	92354	-5	0	24	0	24	0
46		Z1140423061532	92310	92320	92322	92322	-2	0	25	0	25	0
47		Z1140422811009	92283	92289	92298	92295	-6	3	26	1	26	0

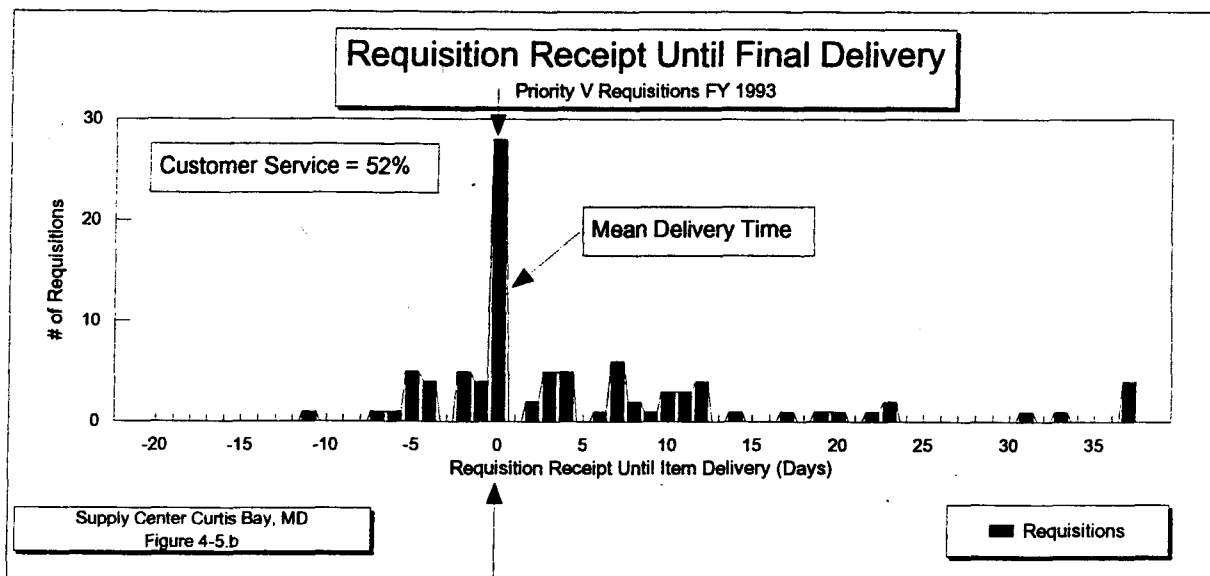
PRIORITY FIVE REQUISITIONS FOR FISCAL YEAR 1993

Number of Transactions	Unit Name	Document Number	Rqstn Date	Ship Date	Receive Date	RDD	Difference in Shipped	Difference in Receipt	Range In Shipped	Frequency In Shipped	Range In Receipt	Frequency In Receipt
48		Z1140423451949	92349	93008	93018	92361	12	22	27	1	27	0
49		Z1140423301685	92335	92344	92347	92347	-3	0	28	1	28	0
50		Z1140422861074	92288	92295	92300	92300	-5	0	29	0	29	0
51		Z1140423492175	92350	93004	93016	92362	7	19	30	0	30	0
52		Z1140430072263	93011	93025	93027	93023	2	4	31	1	31	1
53		Z1140431463660	93148	93160	93164	93160	0	4	32	0	32	0
54		Z1140430212564	93022	93039	93041	93034	5	7	33	0	33	1
55		Z1140423301681	92335	92344	92347	92347	-3	0	34	0	34	0
56		Z1140422811010	92283	92289	92298	92295	-6	3	35	0	35	0
57		Z1140430072281	93011	93025	93027	93023	2	4	36	2	36	0
58		Z1140431463661	93148	93152	93164	93160	-8	4				4
59		Z1140422881162	92289	92293	92301	92301	-8	0				
60		Z1140431693777	93173	93175	93186	93186	-11	0				
61		Z1140431463667	93148	93155	93167	93160	-5	7				
62		Z1140422881156	92289	92295	92301	92301	-6	0				
63	SHERMAN	ZJ717132639686	93265	93267	93277	93277	-10	0				
64		Z1140623399035	93193	93195	93200	93205	-10	-5				
65		Z1140623219026	92324	92324	92335	92336	-12	-1				
66		Z1140623219023	92324	92324	92334	92336	-12	-2				
67		Z1140623219024	92324	92324	92335	92336	-12	-1				
68		Z1140630995269	93104	93112	93117	93117	-5	0				
69		ZZ000130959351	93095	93099	93108	93108	-9	0				
70		Z1140623219025	92324	92324	92335	92336	-12	-1				
71	DALLAS	Z1140231549106	93158	93159	93170	93170	-11	0				
72		Z1140231549105	93158	93159	93170	93170	-11	0				
73		Z1140231549108	93158	93159	93170	93170	-11	0				
74		Z1140231549104	93158	93159	93170	93170	-11	0				
75		Z1140231549107	93158	93159	93170	93170	-11	0				
76		Z1140231336536	93134	93140	93152	93146	-6	6				
77		Z1140223156179	92318	92328	92339	92330	-2	9				
78		Z1140223156180	92318	92322	92334	92330	-8	4				
79		Z1140223156119	92318	92323	92332	92330	-7	2				
80		Z1140223096103	92310	92309	92321	92322	-13	-1				
81		Z1140223276339	92330	92342	92343	92343	-1	0				
82		Z1140223276338	92330	92342	92343	92343	-1	0				
83		Z1140231806763	93182	93201	93211	93194	7	17				
84		Z1140222976047	92337	92338	92360	92349	-11	11				
85		Z1140232026133	93203	93214	93216	93216	-2	0				
86		Z1140223156178	92318	92322	92332	92330	-8	2				
87		Z1140231886102	93195	93201	93205	93207	-6	-2				
88		Z1140231156384	93180	93201	93203	93192	9	11				
89		Z1140223276335	92330	92342	92343	92343	-1	0				
90		Z1140231886101	93195	93201	93205	93207	-6	-2				
91		Z1140230886084	93091	93103	93104	93104	-1	0				
92	MIDGETT	ZZ000131899364	93195	93195	93201	93207	-12	-6				
93		ZJ717130749367	93076	93077	93088	93088	-11	0				
94		ZZ000130959370	93095	93099	93108	93108	-9	0				



MET THE REQUIRED DELIVERY DATE

DID NOT MEET THE REQUIRED DELIVERY DATE



MET THE REQUIRED DELIVERY DATE

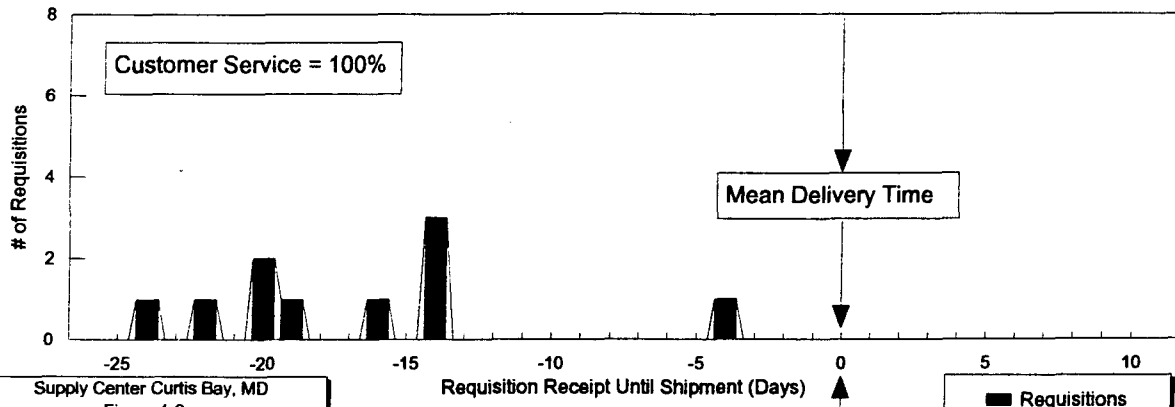
DID NOT MEET THE REQUIRED DELIVERY DATE

PRIORITY TWELVE REQUISITIONS FOR FISCAL YEAR 1993

Number of Transactions	Unit Name	Document Number	Rqstn Date	Ship Date	Receive Date	RDD	Difference in Shipped	Difference in Receipt	Range In Shipped	Frequency In Shipped	Range in Receipt	Frequency In Receipt
1	JARVIS	Z1141132722965	93273	93291	93305	93305	-14	0	-25	0	-25	0
2		Z1141132722966	93273	93291	93305	93305	-14	0	-24	1	-24	0
3	CHASE	Z1140430942955	93097	93104	93130	93128	-24	2	-23	0	-23	0
4		Z1140422931276	93083	93092	93116	93114	-22	2	-22	1	-22	0
5	SHERMAN	Z1140632645399	93266	93277	93297	93297	-20	0	-21	0	-21	0
6		Z1140630045536	93014	93027	93046	93046	-19	0	-20	2	-20	0
7		Z1140631805885	93181	93208	93228	93212	-4	16	-19	1	-19	0
8		Z1140630785122	93081	93093	93113	93113	-20	0	-18	0	-18	0
9		Z1140631615728	93162	93179	93196	93193	-14	3	-17	0	-17	0
10		Z1140631755796	93180	93196	93212	93212	-16	0	-16	1	-16	0
11	DALLAS								-15	0	-15	0
12	MIDGETT								-14	3	-14	0
									-13	0	-13	0
									-12	0	-12	0
									-11	0	-11	0
									-10	0	-10	0
									-9	0	-9	0
									-8	0	-8	0
									-7	0	-7	0
									-6	0	-6	0
									-5	0	-5	0
									-4	1	-4	0
									-3	0	-3	0
									-2	0	-2	0
									-1	0	-1	0
									0	0	0	6
									1	0	1	0
									2	0	2	2
									3	0	3	1
									4	0	4	0
									5	0	5	0
									6	0	6	0
									7	0	7	0
									8	0	8	0
									9	0	9	0
									10	0	10	1

### Requisition Receipt Until Shipment

Priority XII Requisitions FY 1993

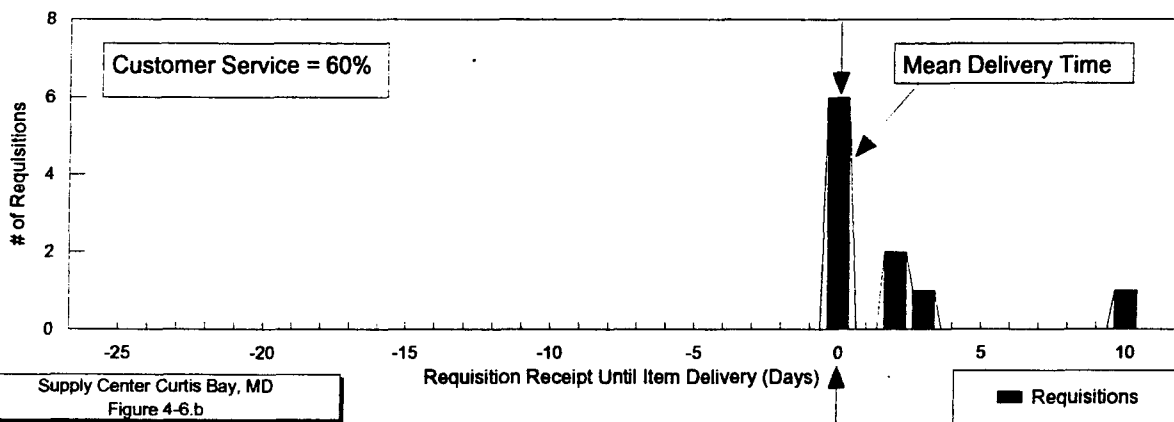


MET THE REQUIRED DELIVERY DATE

DID NOT MEET THE RDD

### Requisition Receipt Until Final Delivery

Priority XII Requisitions FY 1993



MET THE REQUIRED DELIVERY DATE

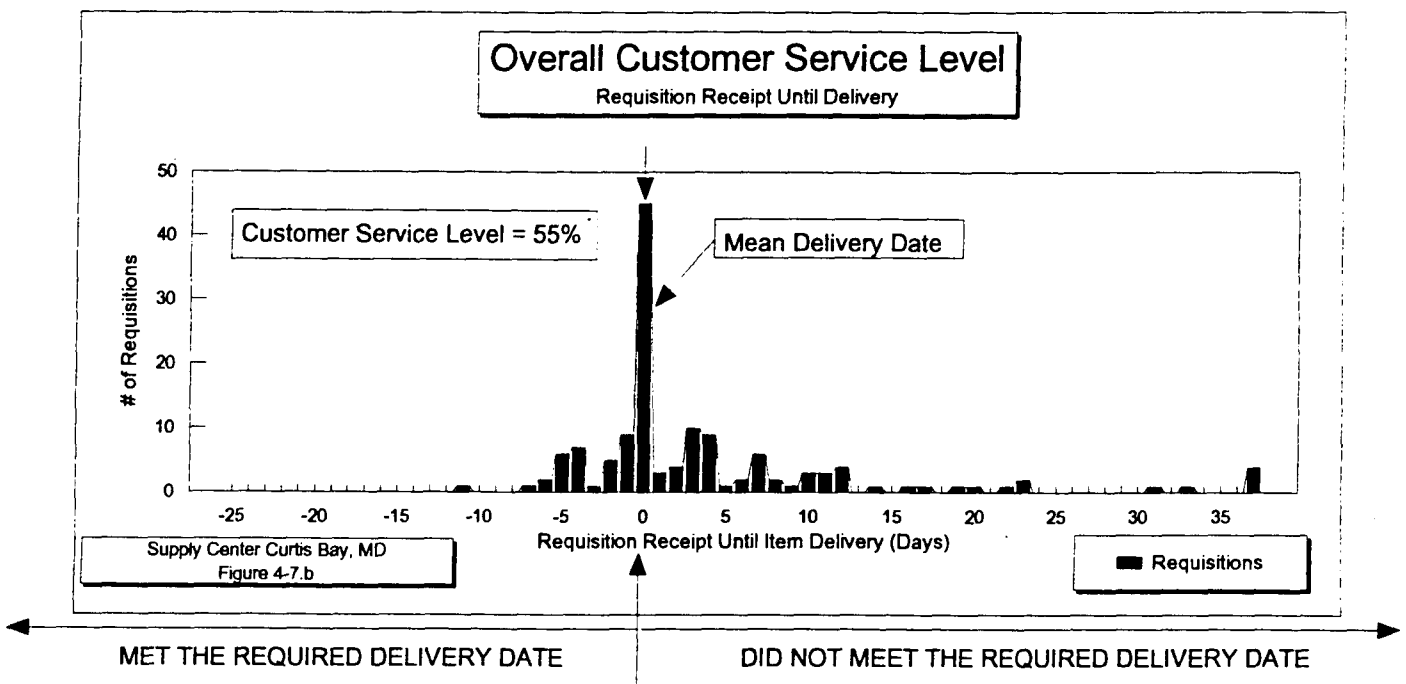
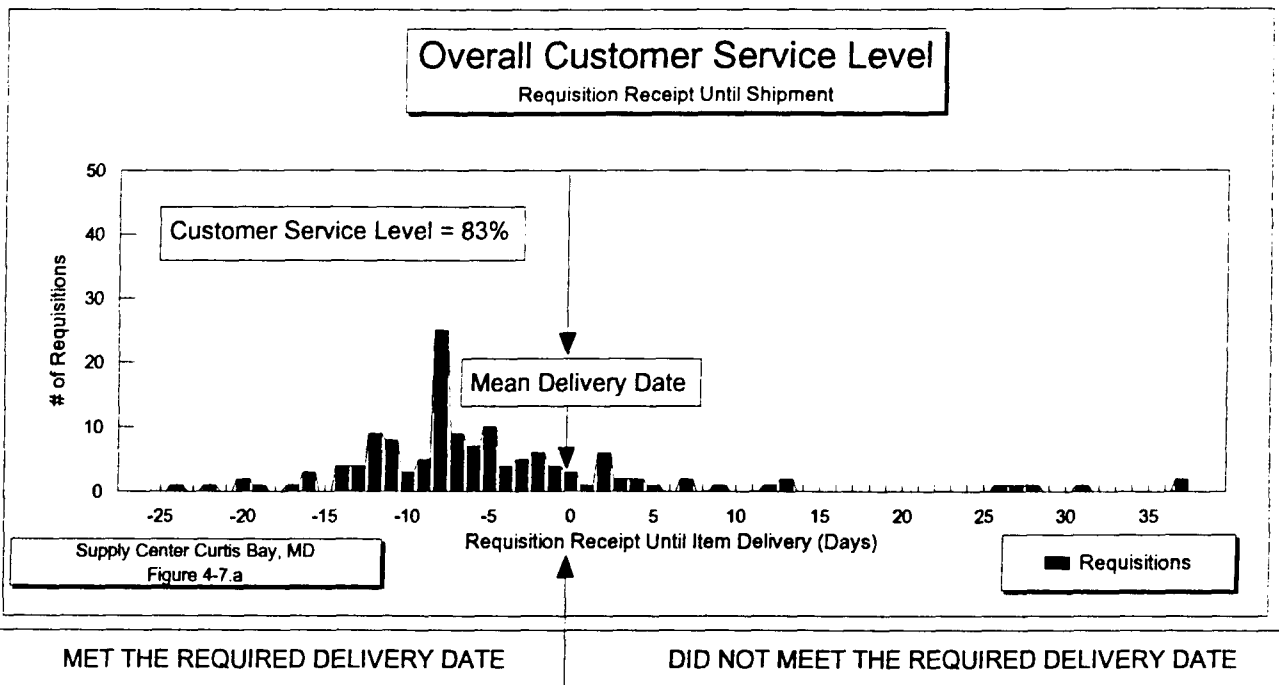
DID NOT MEET THE RDD

TOTAL 378 WHEC CUTTER REQUISITIONS FOR FISCAL YEAR 1993  
ALL PRIORITIES

Number of Transactions	Difference in Shipped	Difference in Receipt	Range In Shipped	Frequency In Shipped	Range In Receipt	Frequency In Receipt
1	-13	-6	-25	0	-25	0
2	-14	-5	-24	1	-24	0
3	-12	-3	-23	0	-23	0
4	-12	-4	-22	1	-22	0
5	-12	-4	-21	0	-21	0
6	-8	3	-20	2	-20	0
7	-8	5	-19	1	-19	0
8	-8	0	-18	0	-18	0
9	-8	0	-17	1	-17	0
10	-8	-4	-16	3	-16	0
11	-8	0	-15	0	-15	0
12	-8	0	-14	4	-14	0
13	-9	-1	-13	4	-13	0
14	-8	0	-12	9	-12	0
15	-8	0	-11	8	-11	1
16	-8	0	-10	3	-10	0
17	-5	3	-9	5	-9	0
18	-7	1	-8	25	-8	0
19	-8	3	-7	9	-7	1
20	-8	0	-6	7	-6	2
21	-5	3	-5	10	-5	6
22	-8	0	-4	4	-4	7
23	-8	1	-3	5	-3	1
24	-4	4	-2	6	-2	5
25	-4	4	-1	4	-1	9
26	-8	4	0	3	0	45
27	-4	4	1	1	1	3
28	-9	-1	2	6	2	4
29	-8	-1	3	2	3	10
30	-2	6	4	2	4	9
31	-8	0	5	1	5	1
32	-8	-1	6	0	6	2
33	-6	-1	7	2	7	6
34	-8	0	8	0	8	2
35	-8	1	9	1	9	1
36	-2	8	10	0	10	3
37	31	37	11	0	11	3
38	27	33	12	1	12	4
39	42	48	13	2	13	0
40	1	11	14	0	14	1
41	-7	-4	15	0	15	0
42	-16	-7	16	0	16	1
43	28	38	17	0	17	1
44	2	12	18	0	18	0
45	2	12	19	0	19	1
46	-13	-4	20	0	20	1
47	-3	7	21	0	21	0
48	72	77	22	0	22	1
49	-7	-2	23	0	23	2
50	0	10	24	0	24	0
51	-8	-4	25	0	25	0
52	-3	7	26	1	26	0
53	-7	-5	27	1	27	0
54	-7	-5	28	1	28	0
55	-3	7	29	0	29	0
56	-7	-5	30	0	30	0
57	-16	-5	31	1	31	1
58	-17	-11	32	0	32	0
59	-13	-4	33	0	33	1
60	-12	-2	34	0	34	0
61	4	10	35	0	35	0
62	-5	3	36	0	36	0
63	-9	0		2		4

TOTAL 378 WHEC CUTTER REQUISITIONS FOR FISCAL YEAR 1993  
ALL PRIORITIES

Number of Transactions	Difference in Shipped	Difference in Receipt	Range In Shipped	Frequency In Shipped	Range In Receipt	Frequency In Receipt
64	-7	3				
65	0	3				
66	-10	0				
67	-2	8				
68	-5	0				
69	13	23				
70	-5	20				
71	-5	0				
72	13	23				
73	-7	0				
74	3	7				
75	2	12				
76	2	12				
77	26	31				
78	3	14				
79	4	10				
80	-5	0				
81	-2	0				
82	-6	3				
83	12	22				
84	-3	0				
85	-5	0				
86	7	19				
87	2	4				
88	0	4				
89	5	7				
90	-3	0				
91	-6	3				
92	2	4				
93	-8	4				
94	-8	0				
95	-11	0				
96	-5	7				
97	-6	0				
98	-10	0				
99	-10	-5				
100	-12	-1				
101	-12	-2				
102	-12	-1				
103	-5	0				
104	-9	0				
105	-12	-1				
106	-11	0				
107	-11	0				
108	-11	0				
109	-11	0				
110	-11	0				
111	-6	6				
112	-2	9				
113	-8	4				
114	-7	2				
115	-13	-1				
116	-1	0				
117	-1	0				
118	7	17				
119	-11	11				
120	-2	0				
121	-8	2				
122	-6	-2				
123	9	11				
124	-1	0				
125	-6	-2				
126	-1	0				
127	-12	-6				
128	-11	0				
129	-9	0				
130	-14	0				
131	-14	0				
132	-24	2				
133	-22	2				
134	-20	0				
135	-19	0				
136	-4	16				
137	-20	0				
138	-14	3				
139	-16	0				



#### **APPENDIX D. TRANSPORTATION SHIPMENT SYSTEM (SHIPIT)**

A copy of the SHIPIT file is provided below in order to show the data format and information provided by the system. The SHIPIT file is used extensively by customer service representatives when dealing with the fleet. Its key data elements are the date a requisition was received, the date an item was picked from inventory by warehouse personnel, the date an item was packed for shipment, the date an item was shipped, and the estimated delivery date. In addition the SHIPIT file provides information on the shipper (name, address, phone, and mode of shipment) and the delivery point.

SCCB's policy change would reprogram the SHIPIT file to include the receipt date based on the return acknowledgement (1348-1A) by a designated receipt point. The receipt date would appear directly below the estimated delivery date.

# Transportation Shipment System (SHIPIT)

SHP001  
DUTY

Transportation Shipment System  
Query by Document Number

22-SEP-94  
13:46

Shipment: 225483 Document Number: ZJ71713088W207 Stock #: 2010121841147  
 GBL: G0708760 Mode: T Serial #: NONE  
 Lead Sh#: I----0225483 Priority: 1 Serial # Req? (Y/N): N Condition:  
 Consignee: 211411 Overseas? (Y/N): N Whse Loc: Cust: S  
 Date In: 03/30/93 Dimensions: 22X13X19 Obl Cmd: S  
 Date Picked: 03/30/93 Pieces: 1 Est Shipping Cost: 200.00  
 Date Packed: 03/30/93 Weight: 270 Point Account: 0645  
 Date Shipped: 03/31/93 Line-Items: 1 Quantity: 00001  
 Date Est Del: 04/07/93 Total Price: 00012400.00 Unit of Issue: EA  
 Scac: EWCF Air Bill: 1312759129 Carrier Phone: (410) 859-4228  
 Carrier Name: EMERY WORLDWIDE, A CF COMPANY, ACCT # 601656994  
 Noun: Ship Address  
 Comments: USCGC JARVIS C O RCVNG OFFICER  
 USCGC JARVIS HONOLULU, HI CG BASE AREA 4 BLDG 554  
 SAND ISLAND ACCESS RD  
 HONOLULU HI 968194398

## APPENDIX E. CUSTOMER MASTER FILE

The Customer Master File (Historical File) tracks the history of a requisition as it travels through the order cycle. The key elements of this file, as shown below, are the Document Identifier (DIC), the requisition priority (PR), the Required Delivery Date (RDD), and the date each Document Identifier was posted (POST DATE).

A requisition's path through the order cycle can be tracked by the DIC. For instance, the Document Identifier Code 'DHA' starts the requisition process and indicates that DAAS<sup>31</sup> has forwarded the requisition to the addressee indicated by the originator (i.e. SCCB received the requisition). The DIC 'AR0' is the material release confirmation indicating the requisition has been shipped from SCCB to its designated delivery point. The AR0 code (under the present SCCB system) closes out the Customer History File. This thesis recommends that a new code (ZZX) should close out the Customer History File upon acknowledgement of receipt by the designated receipt point.

---

<sup>31</sup>DAAS stands for the Defense Automatic Address System.

# CUSTOMER MASTER FILE

03101 PRIMOS REV. NOT SUPPORTED BY THIS VERSION OF SYNC SORT.  
 03102 RESULTS ARE NOT PREDICTABLE.  
 ENTER DOCUMENT NO - 14 POSITIONS = Z114112358W055

RUN NO 11-051

SHIPS INVENTORY CONTROL POINT  
 U S COAST GUARD YARD

PRINT DATE 94265

09 22 94

## CUSTOMER MASTER FILE

DIC	RIC	M	NSN/ACN/FSCM&FN	UI	QUANT	DOCUMENT	NUMBER	S	SUPP	ADD	S	FC	DIS	PRJ	PR	RDD	AS	RIF	UNIT	PRICE	POST
								D			C							DATE			DATE
AR0	ZIC	S	2090011960072	EA	00004	Z114112358W055			Z11411	A	30	Z0C	363	02	571			9105044	J		92363
AE8	ZIC	S	2090011960072	EA	00004	Z114112358W055			Z11411	A	SN	Z0C	ENG	02	363			BAZICAA#00109180			92363
AS8	ZIC	S	2090011960072	EA	00004	Z114112358W055			Z11411	A	30	Z0C	363	02	571			9105044	J		92363
A01	ZIC	S	2090011960072	EA	00004	Z114112358W055			Z11411	A	SN	Z0C	ENG	02	999			ZIBAA#	2363		92363
ADA	ZIC	S	2090011960072	EA	00004	Z114112358W055			Z11411	A	SN	Z0C	ENG	02	999			ZICAA A0109180			92363
D7A	ZIC	S	2090011960072	EA	00004	Z114112358W055			Z11411	A	SN	Z0C	ENG	02	999			ZIBAA#	2363		92363
DHA	ZIC	S	2090011960072	EA	00004	Z114112358W055			Z11411	A	SN	Z0C	ENG	02	999			ZIBAA#	2363		92363

SELECT ONE OF THE FOLLOWING OPTIONS:  
 1 - QUERY BY DOCUMENT NUMBER  
 2 - QUERY BY STOCK NUMBER  
 3 - QUIT

## APPENDIX F. ALCOAST MESSAGE (DRAFT)

The following message is provided as a draft ALCOAST. Its purpose is to immediately disseminate the recommended policy changes to the entire Coast Guard instead of waiting for the next revision to the respective Coast Guard manuals and publications.

### ALCOAST DRAFT MESSAGE

R

FM COMDT COGARD WASHINGTON DC //G-E//  
TO ALCOAST

BT

UNCLAS //N04400//

ALCOAST 000/95

SUBJ: CHANGES IN CG LOGISTICS POLICIES (SUPCEN CURTIS BAY)

A. SUPPLY POLICY AND PROCUREMENT MANUAL, COMDTINST M 4400.19

B. SCCB ORGANIZATION MANUAL, SUPCENCBINST 5400.2A

C. SCCB FLEET CUSTOMER HANDBOOK DTD 14JAN93

1. BACKGROUND. EFFECTIVE IMMEDIATELY THE CG LOGISTICS SYSTEM WILL UNDERGO MINOR CHANGES AS A TEST BED FOR IMPROVING THE LEVEL OF CUSTOMER SERVICE DELIVERED TO THE FLEET BY SCCB. THIS NEW PROGRAM IS DESIGNED WITH THE INTENT TO STREAMLINE SCCB WHILE IMPROVING OVERALL PERFORMANCE. IN ORDER TO ACCOMPLISH THIS SCCB IS CHANGING ITS MISSION STATEMENT AND TAKING RESPONSIBILITY FOR A REQUISITION FROM THE TIME OF RECEIPT UNTIL THE TIME OF DELIVERY.

2. POLICY CHANGES. THE FOLLOWING CHANGES ARE EFFECTIVE IMMEDIATELY:

A. SCCB (AND ONLY SCCB) IS RESPONSIBLE FOR INSURING A REQUISITION IS TRACKED AND DELIVERED TO THE REQUISITIONER'S (A VESSEL) DESIGNATED RECEIPT POINT (I.E. SUPPORT CENTER, GROUP, STATION, BASE, ETC.).

B. ALL ELEMENTS IN THE ORDER CYCLE UP TO AND INCLUDING ITEM SHIPMENT WILL REMAIN THE SAME. SCCB IS NOW RESPONSIBLE FOR INSURING ITEM DELIVERY TO A DESTINATION DESIGNATED IN THE ORIGINAL REQUISITION.

C. THE MOST COMMON RECEIPT POINT (FOR A VESSEL) IS THE SUPPORT CENTER, BASE, GROUP, OR STATION (REFERRED TO AS THE DESIGNATED RECEIPT POINT (DRP)). THE DRP IS RESPONSIBLE FOR CHECKING AN ITEM UPON RECEIPT, FILLING IN THE NAME AND RECEIPT DATE ON THE ENCLOSED 1348-1A, AND RETURNING THE 1348-1A TO SCCB VIA THE ENCLOSED SELF ADDRESSED, METERED ENVELOPE LOCATED IN THE OUTSIDE PACKING LABEL.

D. THE DRP WILL COORDINATE WITH A RESPECTIVE VESSEL TO INSURE ALL ITEMS GET DELIVERED. WHEN A VESSEL IS UNDERWAY, THE DRP

WILL TRANSMIT A WEEKLY MESSAGE LISTING THE DOCUMENT NUMBERS OF THE ITEMS RECEIVED DURING THAT WEEK. THE MESSAGE WILL REQUEST ITEM STATUS FROM THE VESSEL.

E. THE VESSEL IN TURN WILL RESPOND VIA APPROPRIATE MEANS AND COORDINATE EITHER DELIVERY OR ITEM STORAGE. IF DELIVERY IS REQUESTED, THEN THE VESSEL WILL PROVIDE THE DRP WITH APPROPRIATE FUNDING TO COVER SHIPPING COSTS. IF STORAGE IS REQUESTED THEN THE DRP WILL PROVIDE SECURE STORAGE UNTIL LATER DELIVERY/PICKUP.

F. SCCB IS THE ONLY CG/DOD/GSA SUPPLY CENTER REQUIRING RETURN RECEIPT ON ALL ITEMS. THEREFORE ALL SCCB CONTAINERS WILL BE MARKED WITH THE FOLLOWING STATEMENT FOR EASE IN IDENTIFICATION: RETURN 1348-1A (COPY 2) TO SCCB VIA ENCLOSED ENVELOPE.

G. A COMMON MEMORANDUM OF UNDERSTANDING (MOU) WILL BE PROMULGATED BY COMDT (G-E) TO ESTABLISH UNIFORM SUPPORT PROCEDURES FOR DRP'S THROUGHOUT THE COAST GUARD. THIS MOU WILL BE FORTHCOMING.

3. SUMMARY. THESE CHANGES WILL ALLOW SCCB TO TRACK A REQUISITION FROM CRADLE TO GRAVE. WITH YOUR COOPERATION AND RESOURCEFULNESS, OUR GOAL IS TO IMPROVE THE LOGISTICS SUPPORT BEING PROVIDED TO THE FLEET. THE EFFORTS OF THE DRP AND THE FLEET IS CRUCIAL TO THE SUCCESS OF THE LOGISTICS SYSTEM AND THE IMPROVED PERFORMANCE OF SCCB.

4. POC IS LCDR M.F. LEONARD (410) 636-7089 (SCCB).

5. RELEASED BY RADM.

BT

## LIST OF REFERENCES

1. CG msg 251818Z JUL 94.
2. COMDT (G-ELM) letter 5000, undated.
3. Supply Policy and Procurement Manual, COMDTINST M4400.19, p. I-1-1.
4. Ibid, p. I-2-10.
5. Ibid, p. I-2-8.
6. Ibid, p. I-2-11.
7. Ibid, p. I-4-2.
8. Ibid, p. I-4-1.
9. SCCB Organization Manual, SUPCENCBINST 5400.2A, p. 1-1.
10. Ibid, p. 1-1.
11. Engineering Logistics Center Business Process Redesign, 5000 series, undated, Executive Overview.
12. SCCB Strategic and Command Business Plan, SUPCENCBINST 5224.1B, p. IVX-1.
13. Supply Policy and Procurement Manual, COMDTINST M4400.19, p. I-2-2.
14. Ibid, p. I-2-10.
15. Business Logistics Management, Third Edition, Ballou, Ronald H., p. 86.
16. Ibid, p. 141.
17. Ibid, p. 144.
18. Ibid, p. 208.
19. Ibid, p. 80.
20. Ibid, p. 79.
21. Customer Service: Meaning and Measurement, Bernard J. LaLonde and Paul H. Zinszer, National Council of Physical Distribution, 1976.

22. Business Logistics Management, Third Edition, Ballou, Ronald H., 1992, p. 80.
23. Researching Customer Service: The Right Way, Proceedings of the National Council of Physical Distribution Management, Vol II, Baritz, Steven G., p. 608-19.
24. Business Logistics Management, Third Edition, Ballou, Ronald H., 1992, p. 81.
25. Ibid, p. 100.
26. Supply Policy and Procurement Manual, COMDTINST M 4400.19, p. II-2-1.
27. Ibid, p. II-2-2.
28. Ibid, p. II-2-2.
29. Ibid, p. II-2-7.
30. MILSTRIP Routing Identifier and Distribution Codes, DOD 4000.25-1-M.
31. Supply Policy and Procurement Manual, COMDTINST M4400.19. p. I-3-1.
32. Production and Operations Management, Third Edition, Heizer & Render, 1993, p. 26.

# INITIAL DISTRIBUTION LIST

	No. Copies
1. Defense Technical Information Center Cameron Station Alexandria, Virginia 22304-6145	2
2. Library, Code 52 Naval Postgraduate School Monterey, California 93943-5101	2
3. Prof. P. Fields, Code SM/FP Department of Systems Management Naval Post Graduate School Monterey, CA 93940 Commandant (G-E)	1
4. CDR Will Short, Code SM/SW Department of Systems Management Naval Post Graduate School Monterey, CA 93940	1
5. Commandant (G-E) U.S. Coast Guard 2100 Second Street S.W. Washington, D.C. 20593-0001	1
6. Commandant (G-ELM) U.S. Coast Guard 2100 Second Street Washington, D.C. 20593-0001	1
7. Commandant (G-CFM) U.S. Coast Guard 2100 Second Street Washington, D.C. 20593-0001	1
8. Commandant (G-LGL) U.S. Coast Guard 2100 Second Street Washington, D.C. 20593-0001	1
9. LCDR Michael F. Leonard, USCG 2801 Chapman Court Crofton, MD 21114	1

- |  |   |
|--|---|
| 10. Commanding Officer                             | 2 |
| U.S. Coast Guard                                   |   |
| Supply Center Curtis Bay                           |   |
| Baltimore, MD 21226-1792                           |   |
| 11. Commanding Officer                             | 1 |
| U.S. Coast Guard                                   |   |
| Supply Center Baltimore                            |   |
| Baltimore, MD 21226-1792                           |   |
| 12. Commanding Officer                             | 1 |
| U.S. Coast Guard                                   |   |
| Aviation Repair & Supply Center                    |   |
| Elizabeth City, SC 27909-5004                      |   |
| 13. Defense Logistics Studies Information Exchange | 1 |
| U.S. Army Logistics Management College             |   |
| Fort Lee, VA 23801-6043                            |   |